USSR

UDC 534.883

MASTEROV, Ye. P., and SHOROKHOVA, S. P., Acoustic Institute, Academy of Sciences, USSR, Sukhumi Branch

"Some Results of an Experimental Study of the Spectral-Energy Characteristics of Sea Noise"

Moscow, Akusticheskiy Zhurnal, Vol 19, No 2, Mar-Apr 73, pp 207-211

Abstract: A study is made of the spectral-energy characteristics of sea noise within the spectral range of 2-2000Hz for various hydrometeorological conditions. The measurements were conducted by means of a bottom hydrophone, placed at a depth of 200 m. The results are compared with those of other researchers. 5 figures. 6 references.

1/1

USSR

UDC 632.95+661.718.1:632.95

SHMYGLYA, V. A., and SHOROVA, R. CH., Scientific-Research Institute of the Potato Industry; (Consultation with Dr. of Agricultural Sciences P. V. Sazonov)

"Effectiveness of Organophosphorus Preparations Against Aphids-Carriers of Potato Viruses"

Moscow, Khimiya v Selskom Khozyaystve, No 2, 1971, pp 26-27

Abstract: During 1968-1969 tests were run in the central part of the RSFSR, where potato plants are often attacked by viruses M and U. Infected plants were sprayed with several different organophosphorus compounds (mainly Syphos and phosphamide), or raised in soil treated with those compounds; these infected plants were tested against an untreated control group, also infected. Relative degree of infection dropped radically between 1968 and 1969, as a result of use of the insecticides referred to (by factors of 4 -7, as compared with the control group).

1/1

USSR

UDC: 539.4

SHORR, B. F., LOKSHTANOV, Ye. A., KHALATOV, Yu. M., Moscow

"One Possible Approach to Probabilistic Evaluation of the Vibration Strength of Turbine Parts"

Kiev, Problemy Prochnosti, No 11, Nov 72, pp 11-14.

Abstract: A probabilistic estimate is calculated of the vibration strength of turbine machines by means of the strength reserve calculated from the statistical extreme values of applied and rupture variable stresses, based on measurement of mean values and dispersions considering the volume of the experimental data available. The qualitative difference of the application of strength reserves using statistically maximum stresses in place of the maximum measured stresses consists first of all in the utilization not only of the maximally stressed parts, but of all parts for which tensometry is performed, and in the possibility of equally reliably estimating the strength reserves by measurement of stresses on various numbers of parts, as well as estimation of the strength reserve on the basis of the statistically maximum stresses, stimulating an increase in the volume of experimental information on the stress of blades for determination of vibration strength.

1/1

USSR

UDC: 624.07:534.1

BAUYER, V. O., SHORR, B. F.

"Effect Which the Detuning of Blade Frequencies has on Resonance Oscillations"

V sb. Prochnost' i dinamika aviats. dvigateley. Vyp. 6 (Strength and Dynamics of Aircraft Engines--collection of works, No 6), Moscow, "Mashinostroyeniye", 1971, pp 75-98 (from RZh-Mekhenika, No 7, Jul 71, Abstract No 7V231)

Translation: Based on an example of a simplified model of a wheel with unidentical blades, this paper examines the effect of frequency detuning on the distribution and level of stresses in resonance oscillations. It is shown by a series of digital computer calculations of different ways of arranging blades with different frequencies that frequency detuning leads to an increase in the maximum resonance stresses as compared with the stresses in exactly tuned blades, and also to scatter of the maximum stress values in individual blades. Authors' abstract.

1/1

USSR

UDC 615.37:[576.851.49+576.851.551]:615.451.13].036.8

SHORSHER, S. B., SOLODOVNIKOV, Yu. L., PANKRATOVA, L. P., and TSURIKOVA, Z. F., Moscow Institute of Epidemiology and Microbiology, and Yaroslavskaya Oblast Epidemiological Station

"A Study of Reactivity to Combined Typhoid and Tetanus Vaccinations"

Moscow, Zhurnal Mikrobiologii, Epidemiologii, i Immunobiologii, No 2, 1973, p 132

Abstract: Reactions of industrial workers to vaccination by Vi-antigen and Vi-monovaccine against typhus, and by these vaccines combined with tetanus toxoid were compared. Postvaccination reactions were not dependent on age or sex. Reactions to Vi-antigen combined with tetanus anatoxin were not more severe than those to Vi-monovaccine alone. Thus the combination can be recommended for practical use. Vimonovaccine combined with tetanus toxoid caused reactivity that exceeded permissible levels. Consequently further research must be carried out on this combination to decrease reactivity to it prior to its recommendation for use.

1/1

UDC:669.18:-147:621.746

USSR

POLYAKOV, V. V., SHORSHIN, V. N., NEKHAYEV, V. P., KVITKO, M. P., SINEL'NIKOV, V. A., FILATOV, Yu. V., YUGOV, P. I., and UBTYUZHANIN, V. D.

"Study of Technology of Melting in an Oxygen Converter and Pouring of Type K-76 Rail Steel in a Continuous Casting Unit"

Proizvodstvo Chernykh Metallov [Production of Ferrous Metals--Collection of Works], No 75, Metallurgiya Press, 1970, pp 123-132

Translation: Results are presented from a study of a new, progressive metallurgical process--the production of railroad rails of high-quality ingots produced by continuous casting in combination with melting of rail steel in an oxygen converter.

It is assumed that the process is promising for further increases in the strength of railroad rails and reduction of the expense of their production. 5 figures; 4 tables; 5 biblio. refs.

1/1

USSR UDC 619:616.9-022+636.1+636.2+636.4+636.52/.58

MURAVYEV, V. K.; KHUKHOROV, V. M.; SHORSHNEV, V. I.; PRONINA, N. A.; SMIRNOV, V. I.; ONUFRIYEV, V. P.

"Immunological Reactivity of Cattle Treated With Saponin Foot-and-Mouth Disease Vaccine at Different Ages"

Vladimir, V sb. Yashchur (Foot-and-Mouth Disease -- Collection of Works), 1970, pp 74-75 (from RZh-58. Zhivotnovodstvo i Veterinariya, No 4, Apr 71, Abstract No 4.58.574, by E. Sorvachev)

Translation: The dynamics of formation of virus-neutralizing antibodies (VNA) was studied in cattle aged 1-, 3-, 6-, and 12-months and older, 7, 14, 21, 30, 60, and 90 days after vaccination with aluminum hydroxide vaccine -- a formol vaccine from lapinized A_{22} virus of foot-and-mouth disease with various doses of saponin. Animals of each age group were vaccinated with 10 DV_{50} in doses of 4.3 ml (the immunizing dose was determined on guinea pigs), containing saponin in amounts of 2.5, 5, and 10 mg. The VNA titers in the sera of animals were determined on baby mice given 10^3 LD_{50} of the virus. It was found that

1/2

USSR

MURAVYEV, V. K., et al, V sb. Yashchur, 1970, pp 74-75

administration of the vaccine with a saponin dose of 5 and 10 mg to 1-month and 3-month-old calves led to a more significant increase in the VNA titer than in 12-month-old bull calves and adult animals. The local reaction to the introduction of saponin-containing aluminum hydroxide vaccine was less pronounced in calves than in adult animals.

USSR

UDC 669.15 — 194.55:621.791

SHORSHOROV, M. KH., ANTIPOV, V. I., KUDINOV, YE. D., and MIKHALEVA, E. I., Institute of Metallurgy imeni A. A. Baykov

"Effect of Welding Thermal Cycle on Structure and Phase Composition of Heat-Affected Metal in Maraging Steel"

Moscow, Metallovedeniye i Termicheskaya Obrabotka Metallov, No 11, 1973, pp 62-63

Abstract: A study was made of the effect of the heating and cooling rate during welding on the structure and phase composition of maraging steels of the type 18 Ni—8 Co—3 Mo—Ti and 14 Ni—4 Cr—3 Mo—Ti. It was found that an increase in the grain size during welding is determined by the cooling rate for the metal and how long the metal remains at temperatures above the critical thermal points. Cooling of the metal from $\alpha \rightarrow \gamma$ transformation temperatures at a slow rate contributes to an increase in the amount of remaining austenite and to a certain reduction in the hardness of the heat-affected metal. I. I. PROKHOROVA took part in the work.

1/1

Physical Properties

USSR

UDC: 620.18:539.4.019.2

ATROSHCHENKO, E. S., KOSOVICH, V. A., SEDYKH, V. S., and SHORSHOROV, M. KH., Volgograd, Moscow

"The Physico-Mechanical Properties of Blanks Produced by Explosive Pressing"

Moscow, Fizika i Khimiya Obrabotki Materialov, No 5, Sep-Oct 73, pp 123-127

Abstract: The authors study the density, electric conductivity, and hardness of pressings after the explosive, matrixless pressing of iron, nickel, and titanium powder. It is shown that the physico-mechanical properties of pressings obtained by explosive pressing are determined primarily by interparticle contacts with a metallic bond. Simultaneously the inadequate metallic bond of the particles in the briquets is indicated, showing the necessity for the subsequent sintering of the briquets.

USSR UDC 669.71:539.4

NYKALIN, N. N., SHORSHOROV, M. KH., KUDINOV, V. V., and GALKIN, YU. A., Moscow

"Some Means of Producing Reinforced-Fiber Composite"

Moscow, Fizika i Khimiya Obrabotki Materialov, No 4, Jul-Aug 73, pp 98-103

Abstract: The basic theoretical premises and the possibility of producing composites by the method of spraying a matrix onto fibers are discussed from the positions of the physical and chemical processes of joining materials from which the following problems must be solved to accomplish the process: 1) strong joining of fiber and matrix by chemical bonds between them; 2) minimum development of diffusion processes and the absence of new-phase formation between matrix and fibers; 3) maximum preservation of fiber strength; 4) uniform distribution of a given amount of fiber throughout the entire matrix volume; and 5) compaction and strengthening of the matrix with the fibers without damage to the fibers. In this work an aluminum matrix was plasma sprayed onto EP322 steel fibers and it was determined that the bonding strength of the Al-EP322 composite increased with decreased fiber diameter, which in turn reduces the critical length of he 1/2

USSR

RYKALIN, N. N., et al., Fizika i Khimiya Obrabotki Materialov, No 4, Jul-Aug 73, pp 98-103

fiber and makes it possible to obtain the same high level of strength at diminished temperature of fiber preheating in comparison with large-diameter fibers. It was also found that the strength of the plasma-sprayed composite is directly proportional to the volume fraction of fiber in the composite. Two figures, two tables, and ten bibliographic references.

2/2

1/2 016 UNCLASSIFIED PROCESSING DATE--27NOV70

TITLE--NITRATION OF SOME LIGNIN MODEL COMPOUNDS WITH A NITRIC ACID SOLUTION IN ETHANOL -U-

AUTHOR-(02)-GRUSHNIKOV, O.P., SHORYGINA, N.N.

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSSR, SER. KHIM. 1970, (3), 645-9

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--NITRATION, LIGNIN, ALDEHYDE, ALCOHOL, METHANOL, METHYL ETHER, BENZENE DERIVATIVE, ORGANIC NITRO COMPOUND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3006/0924 STEP NO--UR/0062/70/000/003/0645/0649

CIRC ACCESSION NO--AP0134653

UNCLASSIFIED

2/2 016 UNCLASSIFIED PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0134653

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. VANILLIN AND ETHGBR GAVE GUAIACYLETHYLCARBINOL (I), M. 85-6DEGREES. VERATRALDEHYDE SIMILARLY GAVE VERATRYLETHYLCARBINOL (II), B SUB2 146DEGREES, WHICH WITH MEOH-HCL GAVE THE ME ETHER, B SUB0.07 74DEGREES. I ME ETHER, B SUB0.5 96DEGREES, WAS PREPD. SIMILARLY. NITRATION OF THESE CARBINOLS WITH HNO SUB3 (D. 1.4) IN 96PERCENT ETOH RESULTED IN ENTRY OF NO SUB2 GROUPS INTO THE BENZENE RING AND PARTIAL ETHYLATION OF THE CARBINOL GROUPS. TREATMENT OF THE ABOVE COMPDS. WITH HNO SUB3 AS WELL AS THEIR NITRATION WITH HNO SUB3 IN ANHYD. MEDIA RESULTED IN ELECTROPHILIC SUBSTITUTION OF NO SUB2 INTO THE SIDE CHAIN, ESP. PRONOUNCED FOR THE SUBSTRATES WITH A FREE OH GROUP. THIS REACTION IS SUPPRESSED BY METHYLATION, AND LEADS TO DESTRUCTION OF LIGNIN NOT ONLY IN ANHYD. MEDIA, BUT TO SOME DEGREE IN ETOH. THE FOLLOWING WERE ISOLATED AS REACTION PRODUCTS: II GAVE 60PERCENT 6-NITRO DERIV. OF II ET ETHER, A RED SIRUP, AND 10PERCENT 3,4,(MEO) SUB2 C SUB6 H SUB3 NO SUB2 (III) CONTG. 9PERCENT 6-NITRO DERIV. OF II, M. 87-8DEGREES. I GAVE 8PERCENT 4,6,DINITROGUAIACOL, M. 121-2DEGREES. II ME ETHER GAVE 3PERCENT III AND 66PERCENT IIA ME ETHER, A SIRUP. I ME ETHER GAVE 13PERCENT 4,6,DINITROGUAIACOL, M. 121-2DEGREES. FACILITY: INST. ORG. KHIM. IM. ZELINSKOGO, MOSCOW, USSR.

UNCLASSIFIED

Polymers and Polymerization

USSR UDC 638.632

PUCHKOVA, I. A., NININ, V. K., SHORYGINA, N. V., GEFTER, Ye. L., and ZHURAVLEVA, L. S.

"A Method of Making Polymers Which Contain Phosphorus"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 36, 1971, Author's Certificate No 322347, Division C, filed 24 Jul 70, published 30 Nov 71, p 55

Translation: This Author's Certificate introduces: 1. A method of making polymers which contain phosphorus and are based on phenol, formaldehyde and an organophosphorus compound. Synthesis is done by two-stage polycondensation of phenol with the phosphorus-containing compound in the presence of heat with subsequent treatment of the resultant product in formaldehyde at a temperature of up to 100°C. As a distinguishing feature of the patent, the fire resistance of the resins is improved by using di-ββ'-chloroethyl ether of vinylphosphonic acid (vinifos) as the phosphorus-containing compound, and carrying out the first stage of the reaction in an acid medium at 130-200°C for 3-7 hours. 2. A modification of this method distinguished by the fact that phenol and vinifos are taken in ratios from 1:2 to 1:4. 3. A modification of this method distinguished by the fact that the formaldehyde is taken in a ratio of 0.7-0.9 mole per mole of phenol.

1/1

1/2 018 UNCLASSIFIED PROCESSING DATE--13NOV70

TITLE--HYDROGENATION OF ALKYNES ON RHODIUM IN DIFFERENT MEDIA -U-

AUTHOR-(04)-SOKOLSKAYA, A.M., SHOSHENKOVA, V.A., RYABININA, S.A., SOKOLSKIY, D.V.

COUNTRY OF INFO--USSR

SOURCE--DOKL. AKAD. NAUK SSSR 1970, 192(3), 577-9

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CATALYTIC HYDROGENATION, ISOMER, RHODIUM COMPOUND, ORGANOMETALLIC COMPOUND, ALKYNE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3004/1874 STEP NO--UR/0020/70/192/003/0577/0579

CIRC ACCESSION NO--AT0132136

UNCLASSIFIED

2/2 018 UNCLASSIFIED PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AT0132136

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. KINETIC CURVES WERE SHOWN FOR HYDROGENATION OF ISOMERIC OCTYNES OVER RH BLACK IN 96PERCENT ETOH AT 30DEGREES; WITH THE CATALYST SUPPORTED ON BASO SUB4. RH WAS ALSO EXAMD. IN THIS REACTION RUN EITHER IN AQ. HACL OR AQ. KOH. RH-BASO SUB4, REGARDLESS OF THE SOLVENT, GAVE LOWER RATE OF REACTION FOR TERMINAL OCTYNE AND LOWER ALKYNES THAN FOR THE PRODUCT OF ITS HYDROGENATION. THE RATE OF REACTION DECLINED IN THE ORDER: 1,HEXYNE, 1,HEPTYNE, 1,OCTYNE, WITH A CORRESPONDING SHIFT OF THE CATALYST POTENTIAL TOWARD ANODIC VALUES. THIS INDICATES THE ENHANCED ADSORPTIONAL PROPERTIES AS THE ALKYNE CHAIN INCREASES. THE RATE OF REACTION OF THE RESULTING ALKENE DECLINES WITH INCREASING SIZE OF THE MOL. BUT IN COMPDS. WITH THE UNSAID. BOND FURTHER DOWN THE CHAIN FROM THE TERMINAL POSITION THE RATE OF HYDROGENATION IS GREATLY INCREASED; IN THE CASE OF THE HEPTYNES, THE RESULTING HEPTENE FROM HYDROGENATION OF 3,HEPTYNE DOES NOT REACT FURTHER WITH H. 3,HEPTYNE IN 96PERCENT ETOH REMOVED MORE ADSORBED H FROM THE RH-BASO SUB4 SURFACE THAN DOES THE 1,ISOMER. AMONG ISOMERIC OCTYNES THERE WAS ALSO OBSD. THE SAME INCREASED RATE OF HYDROGENATION AS THE TRIPLE BOND WAS MOVED DOWN THE CHAIN AND IN 3,OCTYNE NO FURTHER REACTION TOOK PLACE AFTER THE CONVERSION TO 3,OCTENE.

UNCLASSIFIED

1/2 018 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--SYNTHETIC FIBERS -U-

AUTHOR-(03)-BONDARENKO, V.M., BYCHKOV, R.A., SHOSHIN, A.V.

COUNTRY OF INFO--USSR

SOURCE--USSR. 265,367
REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970,
DATE PUBLISHED--09MAR70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--SYNTHETIC FIBER, CELLULOSE RESIN, POLYACRYLONITRILE FIBER, POLYOLEFIN FIBER, CHEMICAL PATENT, PLASTIC FABRICATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3002/1437 STEP NO--UR/0482/70/000/000/0000/0000

CIRC ACCESSION NO--AA0128836

UNCLASSIFIED

2/2 018 UNCLASSIFIED PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AA0128836

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. SYNTHETIC FIBERS ARE PREPD. BY EXTRUDING POLYMER SOLNS. INTO A COAGULATING BATH IN WHICH THE HARDNESS IS CHANGED GRADUALLY OR STEPWISE BY REGULATING ITS COMPN. AND CONCN. FOR REGENERATED CELLULOSE FIBERS THE COAGULATION BATH CONCN. IS INCREASED FROM 2PERCENT TO 80PERCENT. FOR SYNTHETIC FIBERS (E.G., POLYACRYLONITRILE, POLYOLEFINS), THE CONCN. IS INCREASED FROM 1 TO 95PERCENT.

UNCLASSIFIED

Acc. Nr: AP0049800 Abstracting Service: CHEMICAL ABST. 5-70 Ref. Code: UR0135

S

101517r **Use of "Karbost" in Paronit production.** Kanevskii, I. M.; Fel'dman, R. I.; Shosael, E. Z. (Chelyabinsk. Traktor. Zavod, Chelyabinsk, USSR). *Kauch. Rezina* 1970, 29(1), 43–4 (Russ). Karbost (I) (a by-product of wood pulping industry) was used for filling Paronit (sealing compn.) based on rubber SKS-30. The new filler has low thermal cond. coeff. (<0.10–0.17 kcal/m hr degree in 80–330° range) and high elec. resistance (60,000 ohm cm at 20°). Paronit filled with I had greater tensile strength at break than Paronit contg. graphite. CPJR

9C

REEL/FRAME
19801722

USSR

UDC 621.396.67

SEMENOV, V.S., FRUMKIS, L.S., SHOSTAK, A.S. [Siberian Physicotechnical Institute at the Tomsk State University]

"The Influence Of A Plane-Stratified Medium On The Impedance Of Horizontal Linear Antennas"

Izv. VUZ: Radiofizika, Vol XV, No 5, May 72, pp 773-777

Abstract: Expressions are found for the self impedance of a linear antenna and the mutual impedance of two linear antennas located parallel to the boundary surface of a plane-stratified medium. It is convenient with the use of the recurrence relations given in the paper to calculate with the aid of a computer the antenna impedance for an arbitrary number of layers. The results are shown of calculations of one and two half-wave antennas. Two graphs are presented of the dependence of the components of the impedance introduced into an antenna by a uniform half-space from a height h/λ (λ = length of wave in free space). The values of the dielectric constant ϵ and losses $\eta = 60\sigma\lambda$ correspond to the electromagnetic parameters of the earth in the ultrashort wave band. A graph is shown of the dependence of the active and reactive components of the mutual resistance of antennas located above a uniform half-space on the distance between the antennas. The case of free space ($h = \infty$) is given for comparison. The results are shown in two graphs of the impedance introduced into an antenna by a uniform half-space ($\epsilon = 10$, $\eta = 0.1$) and a passive antenna. 6 fig. 1 ref. Received by editors, 19 August 1971.

1/1

USSR

UDC 621.359.7

SHISHLYANNIKOV, L. A., SHOSTAK, F. T., YERGOZHIN, YE. YE.

"Results of the Operation of the Mointy Demineralization Electrodialysis Pilot Plant"

Vestn. AN KazSSR (Kazakh SSR Academy of Sciences Vestnik), No 2, 1972, pp 44-51 (from RZh-Khimiya, No 12, Jun 72, Abstract No 12L276)

Translation: A study was made of the results of three years of operation of the Mointy demineralization electrodialysis station. An analysis of the operational characteristics of the MK-40-2s and MA-40-2s ion-exchange resin diaphragms is presented, and the technical-economic indexes of the station are given.

1/1

USSR

UDC 621.359.7:629.1

SHISHLYANNIKOV, L. A., SHOSTAK, F. T., and YERGOZHIN, Ye. Ye.

"Performance Results of the Pilot Industrial Plant "Mointy" Producing Fresh Water by Electrodialysis"

Alma-Ata, Vestnik Akademii Nauk Kazakhskoy SSR, No 2 (322), 1972, pp 44-51

Abstract: An analysis is presented of the effectiveness, maintenance cost, and reliability of a pilot plant built in the Kazakh SSR, and operated for three years, 1968-1971. The plant produces 160 m^3 water/day at a cost of 87 kopeks/m^3 of water. The fresh water obtained contained on the average: dry residue 1087 mg/liter, chlorides 215 mg/liter, sulfates 400 mg/liter, hardness of water 4.9 mg-equivalent, pH 6.5, as opposed to 3080, 620, 1200, 16.4, 7.5, respectively, in the initial water. The average consumption of energy was 2.2 K_6W_6 H/m^3 water. Deposits on anion and cation exchange filters consisted mainly of Ca and Mg sulfates, and SiO_2. The plant was capable of demineralizing cold water (8°) with high concentration of sulfates and sodium (up to 50% sulfates) with hardness up to 30 mg-equivalent/liter. It also produced concentrated water solutions with 8-10 g salts/liter, with hardness up to 90 mg-equivalent/liter. The water treatment was controlled

1/2

USSR

SHISHLYANNIKOV, L. A., et al., Vestnik Akademii Nauk Kazakhskoy SSR, No 2 (322), 1972, pp 44-51

by semiautomatic control equipment, and the salt concentration in water, by simple visual conductometric indicators and chemical water analysis. A detailed description of filters, their replacement procedures and maintenance is given, along with the evaluation of steels and other materials used in pumps and other equipment.

2/2

USSR

UDC 621.643.411.4.001.5

SHOSTAK, I. A. and GAPCHENKO, M. N., Kiev Polytechnical Institute;
SLUCHANKO, N. A. and ABERKOV, A. S., Soyuzmontazhgaz [expansion unknown] Trust

"Welding Repeated Butt Joints in Thick-Wall Pipe With a Strip Electrode"

Moscow, Stroitel'stvo Truboprovodov, No 4, Apr 73, pp 21-23

Abstract: Experiments were conducted at the industrial base of the Soyuzmontazhgaz Trust on making butt welds of thick-wall pipe using a strip electrode. Annular welds were made on pipe measuring 426 x 30 mm and 1020 x 17 mm. Cold-rolled strip made from killed steel 08kp measuring 0.8 mm thick and 15 mm wide. Fluxes AN-348A and KVS-19 were used. The weld seams were subjected to mechanical testing after welding with the results compared with mechanical tests of seams of steel 15G2S, welded under ceramic fluxes. Weld seams made using flux KVS-19 had better tensile, yield and impact (+20 C) strengths than those welded using flux AN-348A while impact strengths at -40 C were equal. However, the mechanical properties of seams welded from steel 08kp under either flux were better than weld seams of steel 15G2S pipe.

1/1

USSR

UDC: 51

SHOSTAK, V. F., YAZIK, A. V., BALYASNYY, L. M.

"Two-Level Structure of Solution of Optimization Problems in Complex Automated Control Systems Using Models of Subsystems"

Pribory i sistemy avtomatiki. Resp. mezhved. temat. nauch.-tekhn. sb. (Devices and Systems of Automation. Republic Interdepartmental Thematic Scientific and Technical Collection), 1973, vyp. 26, pp 63-72 (from RZh-Kibernetika, No 7, Jul 73, abstract No 7V555 by the authors)

Translation: The problem of optimizing a complex system designated by models of subsystems is considered. A formalized description is presented, and the structural singularities of solution of the optimization problem are analyzed. Two-level optimization structure is considered, the advantages of realization of such a structure are pointed out, and an example is given.

1/1

USSR

UDC: 51

SHOSTAK, V. F., YAZIK, A. V., and BALYASNYY, L. M.

"Two-Level Structure of the Solution to Optimization Problems in Complex Automated Systems of Control Using Subsystem Models"

Pribory i sistemy avtomatiki. Resp. mezhved. temat. nauch.-tekhn. sb. (Automation Systems and Instruments, Republic Interdepartmental Thematic Scientific-Technical Collection) No 26, 1973, pp 63-72 (from RZh--Matematika, No 7, 1973, Abstract No 7V555)

Translation: The problem of optimizing a complex system specified by subsystem models is examined. Formalized description and analysis of the structural characteristics of the problem's solution are given. A two-level optimization structure is considered, its superiority is demonstrated, and examples are given. Authors' abstract.

1/1

SHOSTAK, V.I.

Visual Acuity

J-9605

SO. MILITARY MEDICAL JOURNAL UDK 612.84

No. 1955

129

DEVICE FOR TESTING VISUAL ACUITY

Cand. Med. Sc., Major, Med. Ser. [illegible] Shostak

At the present time, visual acuity is usually determined with the aid of Golovin-Sivtsev tables. However, these tables have a number of drawbacks. For one thing, they can be easily memorized, and secondly, they are calculated strictly for a fixed distance (5 meters). A change in this distance requires a certain amount of recalculation and does not always permit the obtaining of accurate results. All these considerations significantly reduce the value of this method in the expert evaluation of an individual's visual acuity and also in serving certain scientific-practical problems connected with repeated reexamination of the same individuals.

We were able to eliminate these shortcomings in a device of our own design, the diagram of which is shown below.

Diagram of the device for testing visual acuity. The diameter of the optometric disc is 45 cm., the size of the display window is 7 x 7 cm., and that of the front panel — 40 x 60 cm.

USSR UDC 612.843

SHOSTAK, V. I., Chair of Normal Physiology, Military Medical Academy imeni S. M. Kirov, Leningrad

"Functional Mobility of the Visual Analysor"

Leningrad, Fiziologicheskiy Zhurnal SSSR imeni I. M. Sechenova, Vol 56, No 9, Sep 70, pp 1,310-1,312

Abstract: The functional mobility of the visual analysor was studied under the influence of electric stimulation of the eye (rectangular pulses; length, 1-100 msec) in male subjects 20-27 yrs of age. The minimum (critical) frequency at which flickering phosphene disappeared (A), the critical interval of discreteness (B), and the minimum time between two pulses applied as a pair and perceived separately (C) were determined. At threshold intensity of the electric pulse, A decreased steadily with increasing pulse lengths; B and C tended to assume constant values at a pulse length of 20 msec and remained unchanged with increasing pulse lengths. At a constant 20 msec, A increased with increasing pulse potentials in the 4-9 V range, while B and C decreased. The results showed that A is a reliable index only at pulse lengths = 10 msec, at which it is not affected significantly by pulse length,
1/2

USSR

SHOSTAK, V. I., Fiziologicheskiy Zhurnal SSSR imeni I. M. Sechenova, Vol 56, No 9, Sep 70, pp 1,310-1,312

while B and C can be used as indices in connection with measurements carried out at pulse lengths of 20-75 msec.

2/2

S

USSR

UDC 613.165.9

SHOSTAK, V. I., Candidate of Medical Sciences, Maj Med Serv

"Functional State of the Body Under Reduced Illumination Conditions (Review of Literature"

Moscow, Voyenno-Meditsinskiy Zhurnal, No 3, 1970, pp 28-32

Abstract: A review of the literature on the effects of reduced illumination on the functional state of the human body is presented. A whole series of shifts occur in the activity of the central and autonomic nervous systems, and in functions of analysors in persons operating under reduced illumination. This is typical of military personnel who, because of the nature of their work, operate at night, in twilight and dim rooms (radar personnel, etc.).

To compensate for the effects of reduced light, efforts were made in three areas to improve the function of the visual analysor in military personnel. These efforts included creation of more efficient illumination conditions for instrument scales and rooms, the use of physiological stimulation methods, and improvement of the functional capabilities of the visual analysor by pharmacological agents.

1/3

USSR

SHOSTAK, V. I., Voyenno-Meditsinskiy Zhurnal, No 3, 1970, pp 28-32

To improve the reading of scales in poor light, it was recommended that the background be dull black and the lines and numerals white to ensure the best contrast. The length of the lines should be at least 4-6 times greater than their width. The interval between lines should be 4-5 times greater than the width of the lines. Intermediate divisions should be approximated by eye.

Various physiological methods of improving twilight vision were recommended. These included exposure of the eyes to red light, and increasing light sensitivity by paying more attention and by volitional efforts. In addition, light sensitivity can be increased and the dark adaptation process accelerated by pleasant taste and smell stimuli, wiping skin surfaces with cold water, light exercises, and some deep breaths. A series of organizational measures are also recommended. Persons who must be prepared for unexpected night action should be situated in rooms with illumination that least disturbs night adaptation. Military personnel on duty under poor illumination should wear glasses with colored light filters (red is best of all) when entering brightly illuminated areas. Since compensatory reactions to the increase of light sensitivity and acceleration of the dark adaptation process develop in people working over a

2/3

USSR

SHOSTAK, V. I., Voyenno-Meditsinskiy Zhurnal, No 3, 1970, pp 28-32

prolonged period under reduced illumination conditions, it was recommended that corresponding training be given to representatives of certain military specialties.

Insofar as pharmacological agents for stimulating night vision are concerned, only vitamin A seems to help. Vitamin A insufficiency in the human body causes a worsening of twilight and night vision and hemeralopia. It was recommended that the measures discussed be applied in order to ensure combat readiness of personnel in operations under reduced illumination.

1/2 034 UNCLASSIFIED PROCESSING DATE--20NOV70

TITLE--THE FUNCTIONAL STATE OF THE ORGANISM UNDER CONDITIONS OF REDUCED ILLUMINATION -U-

AUTHOR--SHOSTAK, V.I.

COUNTRY OF INFO--USSR

SOURCE--VOYENNO-MEDITSINSKIY ZHURNAL, NO 3, 1970, PP 28-32

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--CENTRAL NERVOUS SYSTEM, VISUAL PERCEPTION, DIURNAL VARIATION, ILLUMINATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3006/0409 STEP NO--UR/0177/70/000/003/0028/0032

CIRC ACCESSION NO--AP0134177

UNCLASSIFIED

2/2 034 UNCLASSIFIED PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0134177

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN A MAN WHO IS UNDER CONDITIONS OF REDUCED ILLUMINATION THERE ARE A NUMBER OF CHANGES IN THE ACTIVITY OF THE CENTRAL AND VEGETATIVE NERVOUS SYSTEMS AND THE FUNCTIONS OF THE ANALYZERS. THESE CHANGES ARE CONNECTED NOT ONLY WITH THE DIRUNAL PERIODICS BUT ALSO WITH THE SHAPR REDUCTION OF THE FLOW OF INFORMATION PASSING THROUGH THE VISUAL ANALYZER.

UNCLASSIFIED

1/2 030 UNCLASSIFIED PROCESSING DATE--09OCT70

TITLE--EFFECT OF INTENSITY OF THE DESADAPTING PHOTIC STIMULATION OF RESTORING THE LIGHT OF THE VISUAL CENTER IN HUMAN -U-

AUTHOR-(02)-SHOSTAK, V.I., OBUKHOVA, YE.A.

COUNTRY OF INFO--USSR

SOURCE--FIZIOLOGICHESKIY ZHURNAL SSSR IMENI I. M. SECHENOVA, 1970, VOL 56, NR 4, PP 558-562

DATE PUBLISHED-------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--VISUAL PERCEPTION, MAN, LIGHT BIOLOGIC EFFECT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1983/1188 STEP NO--UR/0239/70/056/004/0558/0562

CIRC ACCESSION NO--AP0054087

UNCLASSIFIED

2/2 030 UNCLASSIFIED PROCESSING DATE--09OCT70

CIRC ACCESSION NO--AP0054087

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. EFFECT OF LIGHT FLASHES OF 80-900 MICROSEC. DURATION ON LIGHT SENSITIVITY OF THE HUMAN VISUAL CENTER WAS STUDIED. THE ENERGY OF SUCH STIMULI WAS FOUND TO BE A PREDETERMINING FACTOR FOR THEIR EFFECT. HOWEVER, SHORTENING OF THE FLASHES ALTERS THE RELATIONS: THE CURVES OF THE DARKNESS ADAPTATION HAD ESSENTIAL DIFFERENCES IN THE INITIAL PERIOD AND EQUAL TIME OF COMPLETE RESTORATION OF THE LIGHT SENSITIVITY.

UNCLASSIFIED

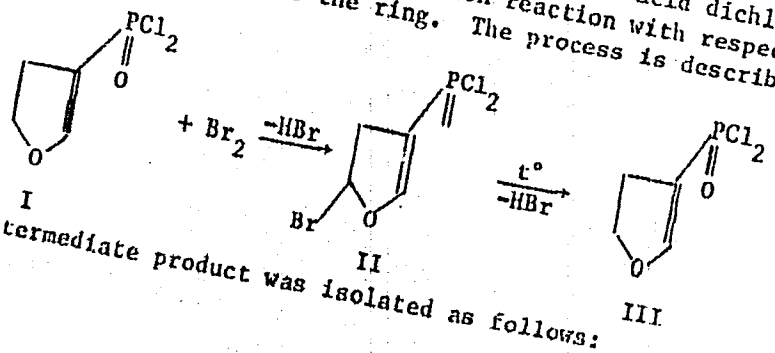
USSR

FRIDLAND, S. V., SHOSTAK, V. P., KAMAY, G. KH. UDC 547.341

"Interaction of Vinylphosphonates with Bromine"

Leningrad, Zhurnal Obshchey Khimii, Vol XLII (CIV), No 1, 1972, pp 121-123

Abstract: A study was made of the bromination of the acid dichloride of dihydrofuranephosphonic acid as a substitution reaction with respect to the most mobile atom of hydrogen of the ring. The process is described as follows:



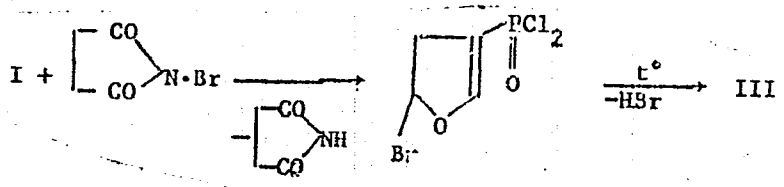
I II III

The intermediate product was isolated as follows:

1/2

USSR

FRIDLAND, S. V., Zhurnal Obshchey Khimii, Vol XLII (CIV), No 1, 1972, pp 121-123



This process is an indirect confirmation of occurrence of the interaction of the acid dichloride (I) with bromine by the scheme with substitution of the most mobile hydrogen atom. Experimental procedures, yields and physical characteristics are presented for obtaining the acid dichloride of furan-3-phosphonic acid and a number of its esters.

2/2

1/2 024 UNCLASSIFIED PROCESSING DATE--09OCT70

TITLE--CLASSIFICATION OF HYPOFERRIC ANEMIAS -U-

AUTHOR-(05)-RYABOV, S.I., RUDAKOVA, T.L., SENCHIK, R.V., MASKEYEVA, ZH.M., SHOSTKA, G.D.

COUNTRY OF INFO--USSR

SOURCE--TERAPEVTICHESKIY ARKHIV, 1 P 101-105

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--ANEMIA, PEDIATRICS, MEDULLA, DIGESTIVE SYSTEM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1990/0943 STEP NO--UR/0504/70/042/004/0101/0105

CIRC ACCESSION NO--AP0109100
UNCLASSIFIED

2/2 024 UNCLASSIFIED PROCESSING DATE--09OCT70

CIRC ACCESSION NO--AP0109100

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ARTICLE PRESENTS THE DATA CONCERNING THE EXAMINATION OF 200 CHILDREN WITH DIFFERENT FORMS OF HYPOFERRIC ANEMIAS. ON THE BASIS OF THE INVESTIGATIONS CONDUCTED THE AUTHORS SUGGEST TO SINGLE OUT IO FORMS OF HYPOFERRIC ANEMIA TAKING INTO CONSIDERATION THE CONDITION OF MEDULLARY HEMOPOISES AND THE RESULTS OF THE STUDY OF THE FUNCTIONAL ACTIVITY OF THE CELLS OF THE ERYTHROID SERIES. THE RESULTS OF THE MORPHOLOGICAL AND FUNCTIONAL INVESTIGATION OF THE STOMACH ARE OF GREAT HELP. FACILITY: KAFEDRA VNUTRENNIKH BOLEZNEY STOMATOLOGICHESKOGO FAKUL'TETA I LENINGRAD MEDITSINSKOGO INSTITUTA IM. I. P. PAVLEVA NA BAZE BOL'NITSY NO 2 ZHDANOVSKOGO RAYONA.

UNCLASSIFIED

USSR

UDC 612.8

KOSTANDOV, E. A., and SHOSTAKOVICH, G. S., Central Scientific Research Institute of Forensic Psychiatry imeni Prof. V. P. Serbskiy, Moscow

"Measurement of the Time of Recognition of Verbal Stimuli by the Method of Backward Masking"

Moscow, Zhurnal Vysshey Nervnoy Deyatel'nosti imeni I. P. Pavlova, Vol 20, No 5, Sep/Oct 70, pp 1,010-1,015

Abstract: The time of recognition of visual verbal signals was studied in normal and psychopathic subjects by means of backward masking. The average time required for recognition of neutral words was found to be 100 msec. A strong foreign stimulus of the same modality (a bright flash) could prevent recognition of the word. The "masking" stimulus thus ceased to exert an essential influence on the recognition and imprinting of the verbal signal. The time of recognition of emotional words differs from that for neutral words. After mental fatigue, the time of recognition is considerably longer. The experiments with backward masking showed that the labile phase during which foreign stimuli may prevent the recognition of words actually coincides with the so-called consolidation phase in the sphere of verbal-logical memory. 1/1

USSR

UDC 547.341:538.27

KALABIN, G. A., ATAVIN, A. S., GAVRILOVA, G. M., TROFIMOV, B. A., and Corresponding Member of the Academy of Sciences USSR SHOSTAKOVSKIY, M. F., Irkutsk Institute of Organic Chemistry, Irkutsk, East Siberian Affiliate, Siberian Department, Academy of Sciences USSR

"Structure of the Products Resulting From the Addition of Dialkylphosphites to Divinyl Ethers of Gem-diols"

Moscow, Doklady Akademii Nauk SSSR, Vol 190, No 4, Feb 70, pp 849-852

Abstract: On the basis of PMR data the authors conclude that the addition of dialkylphosphites to 1,1-divinylhydroxyalkanes occurs stereospecifically yielding 1,3-dioxolanes with cis-oriented substituents at C_4 and C_5. The PMR spectra indicate absence of free rotation around the P-C and C-C bonds in the $(RO)_2-P(:O)-CH_2C-$ fragment; furthermore, the cycle is not planar. An assumption is made that one of the carbon atoms of the cycle (C_4 or C_5) sticks out of the plane of the ring by an angle of more than 30°.

1/1

USSR

UDC 547.785.5:541.67:543.422

SHOSTAKOVSKIY, M. F., GLAZKOVA, N. P., DOMNINA, YE. S., BELOUSOVA, L. V., and SKVORTSOVA, G. G., Irkutsk Institute of Organic Chemistry, Siberian Branch of the Acad. Sc., USSR

"Reaction of N-Vinylimidazoles with Alkyl Halides"

Riga, Khimiya Geterotsiklicheskikh Soyedineniy, No 7, Jul 71, pp 958-960

Abstract: Conditions were studied for the reaction of N-vinylimidazole and N-vinylbenzimidazole with methyl iodide, ethyl, isopropyl, and butyl iodide and bromide, and with methylene chloride. The reaction occurs without a solvent, with a 2-3 fold excess of alkyl halide at reflux temperature, leading to the formation of quaternary salts. It was established that N-vinylimidazole is more reactive toward alkyl halides than N-vinylbenzimidazole, probably because of its higher basicity. Alkyl iodides react faster than alkyl bromides; alkyl chlorides are completely unreactive. Using quantum mechanical calculations it was shown that most of the π-electron charge was localized at the "pyridine" nitrogen atom.

1/1

1/2 011 UNCLASSIFIED PROCESSING DATE--13NOV70

TITLE--STRUCTURE OF PRODUCTS OF THE ADDITION OF DIALKYL PHOSPHITES TO DIETHYL ETHERS OF GEM DIOLS -U-

AUTHOR-(05)-KALABIN, G.A., ATAVIN, A.S., GAVRILOVA, G.M., TROFIMOV, B.A., SHOSTAKOVSKIY, M.F.

COUNTRY OF INFO--USSR

SOURCE--DOKL. AKAD. NAUK SSSR 1970, 190(4), 849-52 (CHEM)

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ETHER, HETEROCYCLIC OXYGEN COMPOUND, PHOSPHATE ESTER, NUCLEAR STRUCTURE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1985/1894 STEP NO--UR/0020/70/190/004/0849/0852

CIRC ACCESSION NO--AT0101938
UNCLASSIFIED

2/2 011 UNCLASSIFIED PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AT0101938

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. FROM THE NMR SPECTRA OF THE PRODUCTS OF REACTION OF (R PRIME1 C) SUB2 PHO WITH RCH(OCH:CH SUB2) SUB2 (PROFIMOV, ET AL., 1969), THE STRUCTURES OF THE PRODUCTS WERE SHOWN TO BE I (R EQUAL H OR ALKYL, R PRIME1 EQUAL ALKYL). THUS WERE PREPD. I (R EQUAL H, R PRIME1 EQUAL R PRIME2 EQUAL ME), I (R EQUAL H, R PRIME1 EQUAL PR, R PRIME2 EQUAL ME), AND I (R EQUAL R PRIME1 EQUAL R PRIME2 EQUAL ME). THE SPECTRAL DATA ARE TABULATED IN DETAIL. THE REACTION IS STEREOSPECIFIC, YIELDING CIS,4,5,SUBSTITUTED-I.

UNCLASSIFIED

1/3 011 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--REACTION OF 1,3,DIOXOLANES WITH ACETYLENE UNDER IOTSICH REACTION CONDITIONS -U-
AUTHOR-(05)-SHOSTAKOVSKIY, M.F., ATAVIN, A.S., TROFIMOV, B.A., KOROSTOVA, YE.S., NEKRASOVA, L.P.
COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSSR, SER. KHIM. 1970, (3), 668-73

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--COMPLEX COMPOUND, ACETYLENE, HYDROXYL RADICAL, ETHER, DIOXANE, CYCLIZATION, CYCLOHEXANE, CHEMICAL REACTION TEMPERATURE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1999/1762 STEP NO--UR/0062/70/000/003/0668/0673

CIRC ACCESSION NO--AP0123562

UNCLASSIFIED

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203010004-9"

2/3 011 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0123562

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. 1,3,DIOXOLANES REACT AT 80-120DEGREES WITH THE LOTSICH COMPLEX OF C SUB2 H SUB2 AND GIVE LOW YIELDS OF HYDROXYETHYL ETHERS OF ACETYLENIC HO COMPDS. FROM IR DATA IT WAS EVIDENT THAT IN A NO. OF CASES CYCLIZATION TO 1,4,DIOXANE DERIVS. TOOK PLACE. 2,METHYL,1,3,DIOXOLANE (9 ML) AND REACTION PRODUCT OF ETMGBR AND C SUB2 H SUB2 (FROM 4.8 G MG) GAVE AFTER 3 HR, ON A STEAM BATH IN MEPH 16.7PERCENT 3,METHYL,3,(2,HYDROXYETHYL),1,PROPYNE, B SUB24 68-71DEGREES; A SIMILAR REACTION IN WHICH THE ORIGINAL COMPLEX WAS PREPD. AT 37-50DEGREES AND THE REACTION WAS RUN IN A STREAM OF C SUB2 H SUB2 2 HR AT REFLUX GAVE SEC-BU CELLOSOLVE, B SUB19 60-3DEGREES. WHEN THE ABOVE REACTION WAS RUN IN THF THERE WAS FORMED AFTER 3 HR AT 120DEGREES CRUDE HC TRIPLE BOND CCHMEOCH SUB2 CH SUB2 OH, B SUB19 50-62DEGREES. 2,METHYL,2,ETHYL,1,3,DIOXOLANE IN A SIMILAR REACTION BOMPLETED BY HEATING 3 HR AT 120DEGREES GAVE 18.2PERCENT 3,METHYL,3,ETHYL,3,(2,HYDROXYETHYL),1,PROPYNE, B SUB15 82-5DEGREES, CONTG. IMPURITIES, ALONG WITH 8.9PERCENT 3,6,DIMETHYL,3,6,BIS(2,HYDROXY,ETHYL),4,OCTYNE, B SUB1 118-20DEGREES. WHEN THE REACTICN WAS RUN IN A CONTINUED STREAM OF C SUB2 H SUB2, FINALLY AT 80DEGREES, IT GAVE 19PERCENT 2,METHYL,2,ETHYL,3,METHYLENE,1,4,DIOXOLANE MIXED WITH MEET SUB2 COCH SUB2 CH SUB2 OH, B SUB3 50-5DEGREES, WHILE THE REACTION RUN 3 HR AT 0-5DEGREES, THE 3 HR AT 100DEGREES IN MEPH GAVE MAINLY THE LAST ETHER (IMPURE).

UNCLASSIFIED

3/3 011 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0123562

ABSTRACT/EXTRACT--PASSING C SUB2 H SUB2 5 HR INTO ETMGBR IN ET SUB2 O AND TREATING THE MIXT. WITH 0.5 MOLE SPIRO(4.4)1,4,DIOXONONANE IN NEPH GAVE AFTER 3 HR AT 60-95DEGREES 18.2PERCENT MIXED 1,ETHYL,1,(2,HYDROXYETHOXY)CYCLOPENTANE AND HOCH SUB2 CH SUB2 OCET(C SUB5 H SUB10-CYCLO) SUB2, B SUB1 60-3DEGREES, AS WELL AS SOME BIS(1,(2,HYDROXYETHOXY),1,CYCLOPENTYNYL)ACETYLENE, B SUB1 140-53DEGREES. SIMILARLY SPIRO(4.5),1,4,DIOXODECANE GAVE 1,ETHYL,1,(2,HYDROXY,ETHOXY)CYCLOHEXANE CONTG. 1,ETHYNYL,1,(2,HYDROXYETHOXY)CYCLOHEXANE, B SUB3 89-90DEGREES; REACTION RUN AT LOWER TEMP. ALSO GAVE THE LATTER PRODUCTS. FACILITY: IRKUTSK. INST. ORG. KHIM., IRKUTSK, USSR.

UNCLASSIFIED

1/2 012 UNCLASSIFIED PROCESSING DATE--20NOV70

TITLE--DIACETYLENE DERIVATIVES. XVII. SYNTHESIS OF OMEGA,PHENYLENYNE AND OMEGA,PHENYLENEDIYNE ETHERS, THIO ETHERS, AND AMINES -U-

AUTHOR-(04)-VOLKOV, A.N., SKVORTSOV, YU.M., DANDA, I.I., SHOSTAKOVSKIY, M.F.

COUNTRY OF INFO--USSR

SOURCE--ZH. ORG. KHIM. 1970, 6(5), 897-902

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ACETYLENE, CHEMICAL SYNTHESIS, THIOL, ETHER, CONDENSATION REACTION, HYDROGENATION, AMINE DERIVATIVE, AROMATIC AMINE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3006/1332 STEP NO--UR/0366/70/006/005/0897/0902

CIRC ACCESSION NO--AP0135006

UNCLASSIFIED

2/2 012 UNCLASSIFIED PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0135006

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE CONDENSATION OF PHC TRIPLE BOND CC TRIPLE BOND CH (I) WITH ROH (R IS ET, BU) IN THE PRESENCE OF KOH GAVE 65-70PERCENT PHC TRIPLE BOND CCH:CHOR. SIMILARLY (WITH RSH), PHC TRIPLE BOND CH:CHSBU AND PHC TRIPLE BOND CCH:CHSR PRIME(R PRIME EQUALS CYCLOHEXYL) WERE PREPD. THE REACTION OF PHC TRIPLE BOND CBR WITH ROCH:CHC TRIPLE BOND CH GAVE PHC TRIPLE BOND CC TRIPLE BOND CCH:CHOR. ANALOGOUSLY, PHC TRIPLE BOND CC TRIPLE BOND CCH:CHSET WAS PREPD. THE SEALED TUBE REACTION BETWEEN I AND HNET SUB2 GAVE PHC TRIPLE BOND CCH:CHNET SUB2. THE HYDROGENATION OF THE ABOVE COMPDS. GAVE THE EXPECTED SATD. ETHERS AND THIO ETHERS. FACILITY: IRKUTSK. INST. ORG. KHIM., IRKUTSK, USSR.

UNCLASSIFIED

1/2 011 UNCLASSIFIED PROCESSING DATE--20NOV70

TITLE--RADICAL PROPARGYL EXCHANGE OF HYDROXYETYL TERTIARY AMINES. SYNTHESIS OF N, 2 HYDROXYETHYL, PROPARGYLAMINES -U-

AUTHOR-(05)-DMITRIYEVA, Z.T., SHOSTAKOVSKIY, M.F., ATAVIN, A.S., KASHIK, T.V., TROFIMOV, B.A.

COUNTRY OF INFO--USSR

SOURCE--ZH. ORG. KHIM. 1970, 6(5), 902-8

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--BROMINATED ORGANIC COMPOUND, TERTIARY AMINE, CHEMICAL SYNTHESIS, ORGANIC AZO COMPOUND, ETHANOL, BENZENE DERIVATIVE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3006/1333 STEP NO--UR/0366/70/006/005/0902/0908

CIRC ACCESSION NO--AP0135007

UNCLASSIFIED

2/2 011 UNCLASSIFIED PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0135007

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE REACTION OF RR PRIME1 NCH SUB2 CH SUB2 OH (R AND R PRIME1 GIVEN: ET, ET; CH SUB2 :CHCH SUB2, CH SUB2 :CHCH SUB2; HOCH SUB2 CH SUB2, HOCH SUB2 CH SUB2; CH SUB2:CHCH SUB2, CH SUB2 CH SUB2 OH; PH, CH SUB2 CH SUB2 OH) WITH HC TRIPLE BOND CCH SUB2 BR IN COLD KOH SOLN. GAVE 70-9CPERCENT RN(CH SUB2 CH SUB2 OH)CH SUB2 C TRIPLE BOND CH (I). HOWEVER, N(CH SUB2 CH SUB2 OH) SUB3 REACTED WITH HC TRIPLE BOND CCH SUB2 BR TO GIVE HOCH SUB2 CH SUB2 N(CH SUB2 C TRIPLE BOND CH) SUB2. AT 60-80DEGREES BESIDES I CYCLIC COMPOUNDS., SUCH AS N,ETHYL,2,VINYL,1,3,OXAZOLIDINE WERE FORMED. SOME I WERE ALSO PREPD. BY REACTING HC TRIPLE BOND CCH SUB2 BR WITH RNHCH SUB2 CH SUB2 OH (R EQUALS H,ME,CH SUB2 CH SUB2 OH, CH SUB2:CHOCH SUB2 CH SUB2, OR PHCH SUB2).

FACILITY: IRKUTSK. INST. ORG. KHIM., IRKUTSK, USSR.

UNCLASSIFIED

1/2 008 UNCLASSIFIED PROCESSING DATE--04DEC70

TITLE--ALPHA HALOETHYL ESTERS OF FURAN,2,CARBOXYLIC ACID -U-

AUTHOR-(04)-SHOSTAKOVSKIY, M.F., SKVORTSOVA, G.G., AN, V.V., MANSUROV, YU.A.

COUNTRY OF INFO--USSR

SOURCE--U.S.S.R. 262,910

REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970,

DATE PUBLISHED--04FEB70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--HALOGENATED ORGANIC COMPOUND, FURAN, CARBOXYLIC ACID ESTER, CHEMICAL PATENT, ORGANIC SYNTHESIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3004/1846 STEP NO--UR/0482/70/000/000/0000/0000

CIRC ACCESSION NO--AA0132111

UNCLASSIFIED

2/2 008 UNCLASSIFIED PROCESSING DATE--04DEC70
CIRC ACCESSION NO--AA0132111
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ALPHA HALOETHYL ESTERS OF FURAN,2,CARBOXYLIC ACID WERE OBTAINED BY TREATING THE VINYL ESTER OF FURAN,2,CARBOXYLIC ACID WITH H HALIDE AT ROOM TEMP. FACILITY: NOVOSIBIRSK INSTITUTE OF ORGANIC CHEMISTRY.

UNCLASSIFIED

1/2 019 UNCLASSIFIED PROCESSING DATE--13NOV70

TITLE--HOMOLYTIC REACTION OF N VINYLPHENOTHIAZINE WITH VINYL BUTYL ETHER -U-

AUTHOR-(05)-SHOSTAKOVSKIY, M.F., SKVORTSOVA, G.G., KUROV, G.N., SIDORENKO, L.L., VORONOV, V.K.

COUNTRY OF INFO--USSR

SOURCE--DOKL. AKAD. NAUK SSSR, 1970, 192(1), 115-17

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ORGANIC AZINE COMPOUND, ETHER, CHEMICAL REACTION MECHANISM, ORGANIC AZO COMPOUND, COPOLYMERIZATION, THIOL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3004/1879 STEP NO--UR/0020/70/192/001/0115/0117

CIRC ACCESSION NO--AT0132141

UNCLASSIFIED

2/2 019 UNCLASSIFIED PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AT0132141

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN THE PRESENCE OF AZOBISISOBUTYRONITRILE N VINYLPHENOTHIAZONE (I) (W. REPPE, 1956) FORMS POLYMERS. I REACTS WITH BUOCH:CH SUB2 (II) TO GIVE N,(6,(VINYLOXY)HEXYL)PHENOTHIAZINE (III) AND COPOLYMERS. THE STRUCTURE OF III WAS PROVEN BY PARTIAL SYNTHESIS: PHENOTHIAZINE PLUS BRCH SUB2 (CH SUB2) SUB4 CH SUB2 OET YIELDS N,(6,ETHOXYHEXYL) III ANALOG (IV). HYDROGENATION OF III GAVE IV. A FREE RADICAL MECHANISM IS PROPOSED FOR THE FORMATION OF III. FACILITY: IRKUTSK. INST. ORG. KHIM., IRKUTSK, USSR.

UNCLASSIFIED

1/2 018 UNCLASSIFIED PROCESSING DATE--02OCT70

TITLE--REACTION OF THE VINYL ETHER OF P,NITROPHENOL WITH BUTANETHIOL UNDER NUCLEOPHILIC THIYLATION CONDITIONS -U-

AUTHOR-(03)-DUBINSKAYA, E.I., FILIPPOVA, A.KH., SHOSTAKOVSKIY, M.F.

COUNTRY OF INFO--USSR

SOURCE--ZH. ORG. KHIM. 1970, 6(3) 630

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ARYL ETHER, PHENOL, BUTANE, THIOL, ORGANIC NITRO COMPOUND, CHEMICAL SYNTHESIS, CHROMATOGRAPHY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1992/1543 STEP NO--UR/0366/70/006/003/0630/0630

CIRC ACCESSION NO--AP0112537

UNCLASSIFIED

2/2 018 UNCLASSIFIED PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AP0112537

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE SEALED TUBE REACTION OF P-H SUB2 C:CHOC SUB6 H SUB4 NO SUB2 WITH BUSNA IN ETOH AT 85DEGREES GAVE P-BUSC SUB6 H SUB4 N(O):NC SUB6 H SUB4 S-BU-P AND A SMALLER AMT. P-BUSC SUB6 H SUB4 N:NC SUB6 H SUB4 SBU-P. THE COMPDS. WERE SEPD. BY CHROMATOG. ON AL SUB2 O SUB3.

UNCLASSIFIED

UNCLASSIFIED PROCESSING DATE--11SEP70

1/2 016

TITLE--DETERMINATION OF THE CONSTANTS OF A. BROMOACROLEIN COPOLIMERIZATION WITH VINYLBUTYL ETHER AND ACROLEIN -U-

AUTHOR--SHOSTAKOVSKIY, M.F., ANNENKOVA, V.A., UGRYUMOVA, G.S.

COUNTRY OF INFO--USSR

SOURCE--IZVESTIYA SIBIRSKOGO OTDELENIYA AKADEMII NAUK SSSR, NO 2, SERIYA KHIMICHESKIKH NAUK, 1970, NR 1, PP 166-168

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--COPOLYMERIZATION, BROMINATED ORGANIC COMPOUND, ALDEHYDE, ETHER, REDOX REACTION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1984/1764 STEP NO--UR/0289/70/000/000/0166/0168

CIRC ACCESSION NO--AP0100344

UNCLASSIFIED

2/2 016 UNCLASSIFIED PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0100344

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. COPOLYMERIZATION OF A BROMOACROLEIN IN THE REDUCTION OXIDATION SYSTEM AG NO SUB3 ..K SUB2 S SUB2 O. SUB8 WITH VINYLBUTYL ETHER AND ACROLEIN WAS INVESTIGATED AND THE CONSTANTS OF COPOLYMERIZATION DETERMINED.

UNCLASSIFIED

USSR

UDC: 547.754'128.07

SHOSTAKOVSKIY, M. F., KOMAROV, N. V., ROMAN, V. K.

"A Method of Producing β-Silicon Substituted Indoles"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 7, 4 Feb 70, pp 28-29, patent No 262905, filed 4 Apr 67

Translation: This Author's Certificate introduces a method of producing β-silicon substituted indoles by interacting organosilicon ketones with phenylhydrazine hydro-chloride in the presence of caprous chloride as a catalyst at a temperature of 160-200°C.

1/1

UNCLASSIFIED PROCESSING DATE--17JUL70

TITLE--VINYL ETHERS OF HALOALCOHOL. IV. GENERAL METHOD FOR SYNTHESIZING MONOHALOALKOXYETHYLENES -U-

AUTHOR--SHOSTAKOVSKIY, M.F., ATAVIN, A.S., IRKHIMOV, A.A., GUSAROV, A.V., NIKITIN, V.N.

COUNTRY OF INFO--USSR

SOURCE--ZH. OBSHCH. KHIM. 1970, 40(1), 70-77

DATE PUBLISHED--------70

23 5/28

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--HALOGENATED ORGANIC COMPOUND, ETHYLENE, ORGANIC PHOSPHORUS COMPOUND, GLYCOL, HETEROCYCLIC OXYGEN COMPOUND, CHEMICAL SYNTHESIS, FLUORINATED ORGANIC COMPOUND, BROMINATED ORGANIC COMPOUND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

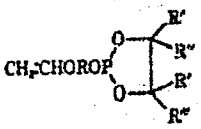
PROXY REEL/FRAME--1980/1342 STEP NO--UR/0079/70/040/001/0070/0077

CIRC ACCESSION NO--AP0049502

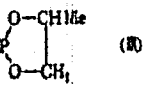
UNCLASSIFIED

Acc. Nr: AP0049502 Abstracting Service: CHEMICAL ABST. 5/70 Ref. Code: UR 0079

99038h Vinyl ethers of haloalcohols. IV. General method for synthesizing monohaloalkoxyethylenes. Shostakovskii, M. F.; Atavin, A. S.; Trofimov, B. A.; Gusarov, A. V.; Nikitin, V. M.; Skorobogatova, V. I. (Irkutsk. Inst. Org. Khim., Irkutsk, USSR). *Zh. Obshch. Khim.* 1970, 40(1), 70–7 (Russ). A synthesis of (haloalkoxy)ethylenes was developed from the Arbuzov rearrangement of vinyloxyalkyl glycol phosphites. Heating 100 g $(CH_2)_5(OH)_2$ and 10 g KOH under 70 ml tetrahydrofuran in an autoclave 4 hr at 120° gave 54% $H_2C:CHO(CH_2)_5OH$, b_{13} 95°, d^{20} 0.8926, n_D^{20} 1.4460. Treating 0.228 mole vinyl glycol ether in 0.3 mole pyridine and 200 ml Et_2O with 0.228 mole phosphorochloridite of a glycol at 15–20° gave, after removal of $C_5H_5N.HCl$, (I) (R, R′, and R″ given): $(CH_2)_5$, H,



(I)



(II)

REEL/FRAME
19801342

AP0049502

Me, b_3 96.5°, d^{20} 1.1090, n_D^{20} 1.4615; $(CH_2)_2$, H, Me, b_2 86–7°, 1.0730, 1.4580; $(CH_2)_4$, H, Me, $b_{2.5}$ 105°, 1.0599, 1.4583; $(CH_2)_4$, H, Me, b_2 135°, 1.0840, 1.4605; $(CH_2)_3$, Me, Me, b_1 87°, 1.0500, 1.4572; $(CH_2)_4$, Me, Me, b_1 105–8°, 1.0391, 1.4595; $(CH_2)_2$-CHMe, H, Me, b_1 90–5°, 1.0511, 1.4520; $(CH_2)_2O(CH_2)$, H, Me, b_7 145°, 1.1106, 1.4845; $(CH_2)_2$, H, H, b_8 93°, 1.1795, 1.4710; II, b_7 65°, 1.1334, 1.4614. These with 5 moles alkyl halide heated in a sealed tube at 90–150° several hr gave 20–85% $H_2C:CHORX$ (R and X shown): $(CH_2)_2$, F, b. 79°, 0.9745, 1.3860; $(CH_2)_2$, Cl, b. 106°, 1.0470, 1.4375; $(CH_2)_2$, Br, b_{51} 50°, 1.4051, 1.4710; CH_2CH_2, I, b_{52} 71°, 1.7585, 1.5263; $(CH_2)_3$, F, b. 95–8°, 0.9534, 1.4003; $(CH_2)_3$, Cl, b_{41} 52–3°, 1.0273, 1.4375; $(CH_2)_3$, Br, b_{41} 55°, 1.3484, 1.4705; $(CH_2)_3$, I, b_3 54–5°, 1.6368, 1.5193; $(CH_2)_4$, Cl, b_{17} 61–5°, 0.9965, 1.4458; $(CH_2)_4$, Br, b_{28} 72–3°, 1.2860, 1.4710; $(CH_2)_4$, I, b_4 70–1.5°, 1.5471, 1.5158; $(CH_2)_5$, Cl, b_{14} 84–6°, 0.9718, 1.4478; $(CH_2)_5$, Br, b_1 54–5°, 1.2049, 1.4708; $(CH_2)_5$, I, b_1 84–5°, 1.3947, 1.5015; $(CH_2)_2CHMe$, Br, b_{50} 76–8°, 1.2071, 1.4650; $(CH_2)_2CHMe$, I, b_7 62–4°, 1.5056, 1.5080; $(CH_2)_2O(CH_2)_2$, Cl, b, 69–71°, 1.1040,

2/3

19801343

AP0049502

1.4535; $(CH_2)_2O(CH_2)_2$, Br, b_5 73–5°, 1.3564, 1.4750; $(CH_2)_2O(CH_2)_2$, I, b_1 58–9°, 1.5893, 1.5139. Exchange of the iodo members with KF gave the fluoro analogs: $(CH_2)_2$, F, described above; $(CH_2)_3$, F, described above; $(CH_2)_4$, F, b. 115–20°, 0.9272, 1.4045. Rearrangement of I [R = $(CH_2)_2$, R^1 = R^2 = H] with $H_2C:CHCH_2Br$ resulted in ring opening only and gave $H_2C:CHCH_2P(O)(OCH_2CH_2Br)O(CH_2)_2OCH:CH_2$ (III); $(PrO)_2POCH_2CH_2OCH:CH_2$ and EtI similarly gave only the open-chain $H_2C:CHO(CH_2)_2OP(O)(Et)OPr$, b_1 87–9°, 1.0476, 1.4417. III, b_1 144–5°, 1.3630, 1.4890, was obtained above in 67% yield. Reaction of 2 moles chlorohydrin with 2 moles AcH and dry HCl at −5–0° gave the requisite chloro ethers, which with 2.2 mole Et_3N at this temp., then 5 hr at 80–90°, gave the (haloalkoxy)ethylenes $H_2C:CHORX$ (R and X shown): $(CH_2)_2$, Cl; $(CH_2)_3$, Cl and $(CH_2)_3$, Br and $(CH_2)_4$, Cl, described above. Triethylene glycol and Br with red P gave $(BrCH_2CH_2OCH_2)_2$ $b_{1.5}$ 103–5°, 1.6638, 1.5010, which with powd. KOH in a Cu vessel at 95–110° in partial vacuo gave 18.5% $H_2C:CHO(CH_2)_2O(CH_2)_2Br$, described above. G. M. Kosolapoff

2/3

19801344

Acc. Nr: AP0053421 Abstracting Service: CHEMICAL ABST. 5/70 Ref. Code: UR0079

111557t Vinyl ethers of organosilicon alkylthio alkanols. Shostakovskii, M. F.; Mikhailov, Z. L.; Komarov, N. V.; Vlasova, N. N. (Irkutsk. Inst. Org. Khim., Irkutsk, USSR). *Zh. Obshch. Khim.* 1970, 40(1), 84–90 (Russ). Heating 5.9 g $Et_3SiCH_2CH_2SH$ with 1.5 g NaOH and 2.6 g $ClCH_2CH_2OH$ in aq. EtOH gave 75% $Et_3SiCH_2CH_2SCH_2CH_2OH$, b_1 120°, d^{20} 0.9508, n_D^{20} 1.4920. Similarly were prepd. 35–80% $R_3Si(CH_2)_nS(CH_2)_m$-OH (R_3, *m*, and *n* shown): Me_3, *2,1*, b_{10} 116°, 0.9038, 1.4725; $MeEt_2$, *2,1*, b_4 110°, 0.9406, 1.4805; $MeEt_2$, *2,2*, b_1 120°, 0.9480, 1.4872; Me_3, *2,2*, b_{10} 121°, 0.9398, 1.4795; Me_3, *2,3*, b_4 113°, 0.9356, 1.4800; Et_3, *2,3*, b_2 123°, 0.9480, 1.4890; $MeEt_2$, *3,1*, b_1 115°, 0.9273, 1.4810; $MeEt_2$, *3,2*, b_4 131°, 0.9395, 1.4860; Et_3, *3,2*, b_1 120°, 0.9455, 1.4900; Me_3, *3,2*, b_1 107°, 0.9400, 1.4805; Me_3, *3,3*, b_1 102°, 0.9315, 1.4762; Et_3, *3,3*, b_1 134°, 0.9374, 1.4860; Pr_3, *3,2*, b_{10} 150°, 0.8951, 1.4705. Irradn. with uv light of a mixt. of 2.9 g $Et_3SiCH_2CH_2SH$ and 0.9 g allyl alc. 10 hr gave 47% $Et_3SiCH_2CH_2SCH_2CH_2CH_2OH$, b_1 120°, 0.9455, 1.4900, providing an alternate route to the compds. above with $m = 3$. Heating the above alcs. in dioxane with a catalytic amt. K salt of the alc. under 15–18 atm (initial) C_2H_2 1.5 hr at 130–40° gave 40–70% $R_3Si(CH_2)_nS(CH_2)_mOCH{:}CH_2$: ($R_3$, *m*, and *n* shown): Me_3, *2,1*, b_2 62°, 0.9141, 1.4700; $MeEt_2$, *2,1*, b_4 78°, 0.9126, 1.4750; $MeEt_2$, *2,2*, b_1 93°, 0.9211, 1.4810; Et_3, *2,2*, b_1 121°, 0.9197, 1.4840; Me_3, *3,2*, b_4 103°, 0.9140, 1.4335; Me_3, *2,3*, b_2

REEL/FRAME
19830445

AP0053421

85°, 0.9066, 1.4712; Et_3, *2,3*, b_2 123°, 0.9184, 1.4820; $MeEt_2$, *3,1*, b_{16} 69°, 0.8577, 1.4410; Me_3, *3,2*, b_3 84°, 0.9092, 1.4755; $MeEt_2$, *3,2*, b_2 105°, 0.9196, 1.4830; Et_3, *3,2*, b_2 137°, 0.9150, 1.4860; Me_3, *3,3*, b_2 114°, 0.9033, 1.4740; Et_3, *3,3*, b_2 143°, 0.9172, 1.4840. Alternatively, $R_3Si(CH_2)_3SH$ and $ClCH_2CH_2O$-$CH{:}CH_2$ emulsified in aq. NaOH at 90° gave the vinyl ether described above in 70% yield. Heating the vinyl ethers with AcOH 30 hr at 60° gave $R_3Si(CH_2)_nS(CH_2)_mOCHMeOAc$ (R_3, *m*, and *n*, shown): Me_3, *2,1*, b_1 92°, 0.9824, 1.4590; Et_3, *2,2*, b_2 142°, 0.9752, 1.4720; Et_3, *3,2*, b_2 152°, 0.9695, 1.4718; Me_3, *2,3*, b_2 125°, 0.9674, 1.4610; Et_2, *2,3*, b_2 149°, 0.9655, 1.4720; Me_3, *3,3*, b_2 128°, 0.9616, 1.4620; Et_3, *3,3*, b_2 165°, 0.9640, 1.4718. Heating the vinyl ethers with PhSH in the presence of $(Me_2CO)_2$ catalyst 10 hr at 130–40° or reaction of the vinyl ethers with BuSH in uv light gave 52–92% $R_3Si(CH_2)_nS(CH_2)_mOCH_2$-$CH_2SR^1$ (R, R^1, *m*, and *n* shown): Me, Bu, *2,1*, b_4 160°, 0.9513, 1.4875; Et, Ph, *2,2*, b_2 170°, 1.0092, 1.5310; Et, Bu, *2,2*, b_3 195°, 0.9506, 1.4978; Et, Ph, *3,2*, b_1 198°, 1.0211, 1.5435; Et, Bu, *3,2*, b_2 168°, 0.9451, 1.4940; Me, Ph, *3,3*, b_2 175°, 1.0307, 1.5490; Me, Bu, *3,3*, b_2 192°, 0.9380, 1.4860; Et, Ph, *3,3*, b_2 200°, 0.9968, 1.5230; Et, Bu, *3,3*, b_2 200° 0.9409, 1.4925. $Et_3SiCH_2CH_2SCH_2CH_2OCH{:}CH_2$, BuOH, and a trace concd. HCl gave, after 0.5 hr at 50°, 57% $Et_3SiCH_2CH_2SCH_2CH_2OCH$-MeOBu, b_2 140°, 0.9342, 1.4740; also prepd. from $Et_3SiCH_2CH_2$-SCH_2CH_2OH and $BuOCH{:}CH_2$ with HCl catalyst. The vinyl ethers described above added HCl to form extremely unstable $R_3Si(CH_2)_nS(CH_2)_mOCHClMe$, and polymd. with Lewis acids to viscous oils, but were unaffected by peroxidic initiators.

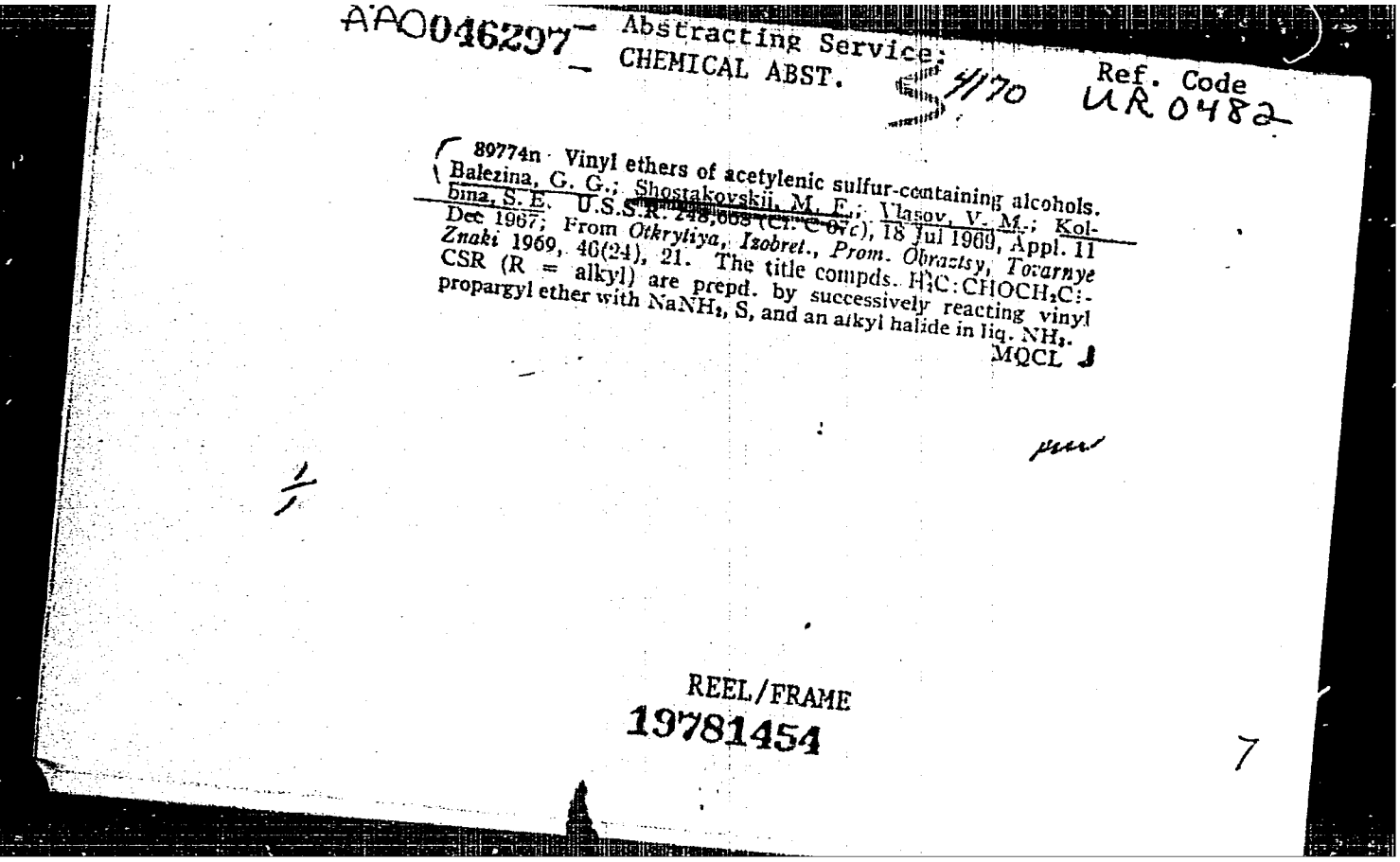
G. M. Kosolapoff

19830446

Acc. Nr: AP0053456 Abstracting Service: CHEMICAL ABST. 5/70 Ref. Code: UR 0366

110702z Alkyl(aryl)thioalkoxyethylenes. Shostakovskii, M. F.; Komarov, N. V.; Mikhailov, Z. I.; Kolosnitsyna, T. I. (Irkutsk. Inst. Org. Khim., Irkutsk, USSR). *Zh. Org. Khim.* 1970, 6(2), 233–7 (Russ). The reaction of $RS(CH_2)_nOH$ with HC:CH in the presence of $RS(CH_2)_nOK$ gave ~80% $RS(CH_2)_n$-$OCH:CH_2$ (I) (R and *n* given): Pr, *2*; Bu, *2*; heptyl, *2*; Ph-CH_2, *2*; Et, *3*; Pr, *3*; neopentyl, *3*; heptyl, *3*; Ph, *3*; and $PhCH_2$, *3*. The reaction of I (R = Bu, *n* = 3) (II) with BuOH gave $BuS(CH_2)_3OCHMeOBu$, which on prolonged heating split to $MeCH(OBu)_2$ and $MeCH[O(CH_2)_3SBu]_2$ (III). Condensation of II with $BuS(CH_2)_3OH$ also gave III. The reaction of I with AcOH gave $R(CH_2)_nOCHMeOAc$. CPJR

REEL/FRAME
19830481



AA0046297 Abstracting Service: CHEMICAL ABST. 4170 Ref. Code UR 0482

89774n Vinyl ethers of acetylenic sulfur-containing alcohols. Balezina, G. G.; Shostakovskii, M. F.; Vlasov, V. M.; Kolbina, S. E. U.S.S.R. 248,603 (Cl. C 07c), 18 Jul 1969, Appl. 11 Dec 1967; From *Otkrytiya, Izobret., Prom. Obraztsy, Tovarnye Znaki* 1969, 46(24), 21. The title compds. $H_2C{:}CHOCH_2C{:}CR$ (R = alkyl) are prepd. by successively reacting vinyl propargyl ether with $NaNH_2$, S, and an alkyl halide in liq. NH_3. MQCL

REEL/FRAME
19781454

7

AP9052913

UR 0289

PRIMARY SOURCE: Izvestiya Sibirskogo Otdeleniya, AN SSSR, Seriya Khimicheskikh Nauk, Nr 12(162), Nr 5, pp 113-115

M. F. Shostakovsky, Yu. G. Kryajev, A. V. Rjepka, Z. A. Okladnikova

THE PREPARATION OF POLYDIMETHYLVINYLETHINYLCHLOROMETHANE AND ITS CONVERSIONS

Polydimethylvinylethinylchloromethane has been obtained and aminated.

1949 1612

USSR

UDC 541.15+547.241

ZAGORETS, P. A., SHOSTENKO, A. G., DODONOV, A. M., Moscow Institute of Chemical Technology imeni D. I. Mendeleyev

"Radiochemical Synthesis of Chloroethyldichlorophosphine From PCl_3 and Ethylene"

Moscow, Khimiya Vysokikh Energiy, Vol 5, No 6, Nov-Dec 71, pp 556-557

Abstract: The authors synthesized chloroethyldichlorophosphine by addition of phosphorus trichloride to ethylene under the action of Co-60 gamma radiation. Elemental analysis and IR spectroscopy were used to identify the reaction product. The kinetics of chloroethyldichlorophosphine accumulation were studied at temperatures of 100, 130, 150, 180 and 195° and absorbed dose rates of $1.5 \cdot 10^{16}$, $2.5 \cdot 10^{16}$, $7.7 \cdot 10^{16}$ and $12.8 \cdot 10^{16}$ ev/ml. It was found that the radiation yield of chloroethyldichlorophosphine increases with use in temperature and a decrease in radiation dose rate.

1/1

USSR

UDC 541.15 547.241

ZAGORETS, P. A., SHOSTENKO, A. G., DODONOV, A. M., Moscow Institute of Chemical Technology imeni D. I. Mendeleyev

"Gamma-Initiated Synthesis of β-Chloroalkyldichlorophosphines"

Leningrad, Zhurnal Obshchey Khimii, Vol 41, No 10, 1971, pp 2171-2173

Abstract: A study was made of the products of addition reactions, initiated by gamma-irradiation from Co-60 source, of phosphorus trichloride with straight- and branched-chain olefins containing 4 to 8 carbons in a molecule. The reactions yielded 77 to 95 percent β-chloroalkyldichlorophosphines (I) which are important intermediate products, easily convertible into acids, esters, and amines, because they contain labile chlorine atoms. The maximum yield of (I) was obtained by irradiation, with 1-200 rad/sec. dose, of a mixture of liquid olefin and phosphorus trichloride in 1:4 molar ratio. Almost all preparations produced a mixture of two isomers of the 1:1 adduct with admixtures of the products of radical recombination and disproportionation reactions. 1/2

USSR

ZAGORETS, P. A., et al, Zhurnal Obshchey Khimii, Vol 41, No 10, 1971, pp 2171-2173

A series of pure (I) were separated by vacuum distillation and were identified by elemental analysis and IR spectra. The tabulated analytical data show that one or another isomer of (I) can be obtained in predominant quantity by varying the reaction temperature in the 0-70° range. The elemental analysis data and some physical constants are tabulated for the series of (I) and IR spectra of three (I) compounds are shown. The experimental procedures are described in some detail.

2/2

USSR

UDC 615.322:547.944.3].074

SIMON, I. S., PLETNEVA, T. A., GUBINA, T. N., and SHOSTENKO, YU. V., Khar'kov Scientific Research Institute of Pharmaceutical Chemistry

"Methods for Controlling the Production of Atropine Sulfate. III. Determination of the Total Tropane Alkaloids in Scopolia Roots and Intermediates of the Production of Hyoscyamine by the Method of Nonaqueous Titration"

Moscow, Khimiko-Farmatsevticheskiy Zhurnal, Vol 4, No 9, Sep 70, pp 58-60

Abstract: The production of commercial hyoscyamine from the roots of Caucasian Scopolia requires stage-by-stage control and determination of the yields in the extraction, sorption and desorption stages. Since the sum total of the alkaloids are absorbed from the aqueous extract during sorption, and the desorption process likewise ends with elution of the total alkaloids

USSR

SIMON, I. S., et al., Khimiko-Farmatsevticheskiy Zhurnal, Vol 4, No 9, Sep 70, pp 58-60

from the cation exchanger, such control can be based on a determination of the total alkaloids without the isolation of hyoscyamine and atropine. The authors suggest the following scheme for the analysis of acid aqueous extracts from Sopolia roots: 1) extraction of alkaloids from an alkalized aqueous solution with ether; 2) drying of the ether solution; 3) distilling off of the ether under vacuum; 4) dissolution of the residue in chloroform; 5) drying of the chloroform solution; 6) titration of the chloroform alkaloid solution with 0.1 N. perchloric acid solution. A solution of pure hyoscyamine in an 0.25 percent sulfuric acid solution was analyzed to estimate the accuracy of this scheme. The analysis results, interpreted by the method of mathematical statistics, indicate a rather high accuracy for the scheme.

In an analysis of the extracts obtained from Sopolia roots and the filtrates after sorption, stable, indivisible emulsions occur in the conversion of the sum total of the alkaloids from the alkalized aqueous phase to an organic solvent. Pre-precipitation of the extracts and filtrates from the yeast substances was therefore necessary. The authors used ethyl alcohol,

2/3

- 5 -

USSR

SIMON, I. S., et al., Khimiko-Farmatsevticheskiy Zhurnal, Vol 4, No 9, Sep 70, pp 58-60

added to the extract in a 4:1 ratio, for this purpose. Since the analysis scheme now also included precipitation of the ballast substances, it was necessary to check the effect on the quantitative results. A series of experiments was performed, using additions of an alcoholic solution of pure hyoscyamine directly to the extract, which was preliminarily analyzed by the method of nonaqueous titration. Although the agreement between parallel determinations was satisfactory, the introduction of the ballast substance precipitation stage reduced the accuracy of the analysis due to the appearance of slight but systematic losses. The scheme used for analysis of the extract is also used for quantitative determination of the total alkaloids in the eluate, but without pre-precipitation of ballast substances.

Satisfactory agreement is found between the analysis results obtained by the authors' method and those obtained by the GOST [All-Union State Standard] method, while root analysis time under the authors' scheme is half that of the GOST method.

3/3

1/2 009 UNCLASSIFIED PROCESSING DATE--20NOV70

TITLE--ATROPINE SULFATE -U-

AUTHOR-(04)-SHUSTENKO, YU.V., SIMON, I.S., GUBINA, T.N., PLETNEVA, T.A.

COUNTRY OF INFO--USSR

SOURCE--U.S.S.R. 229, 530
REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970,
DATE PUBLISHED--01APR70

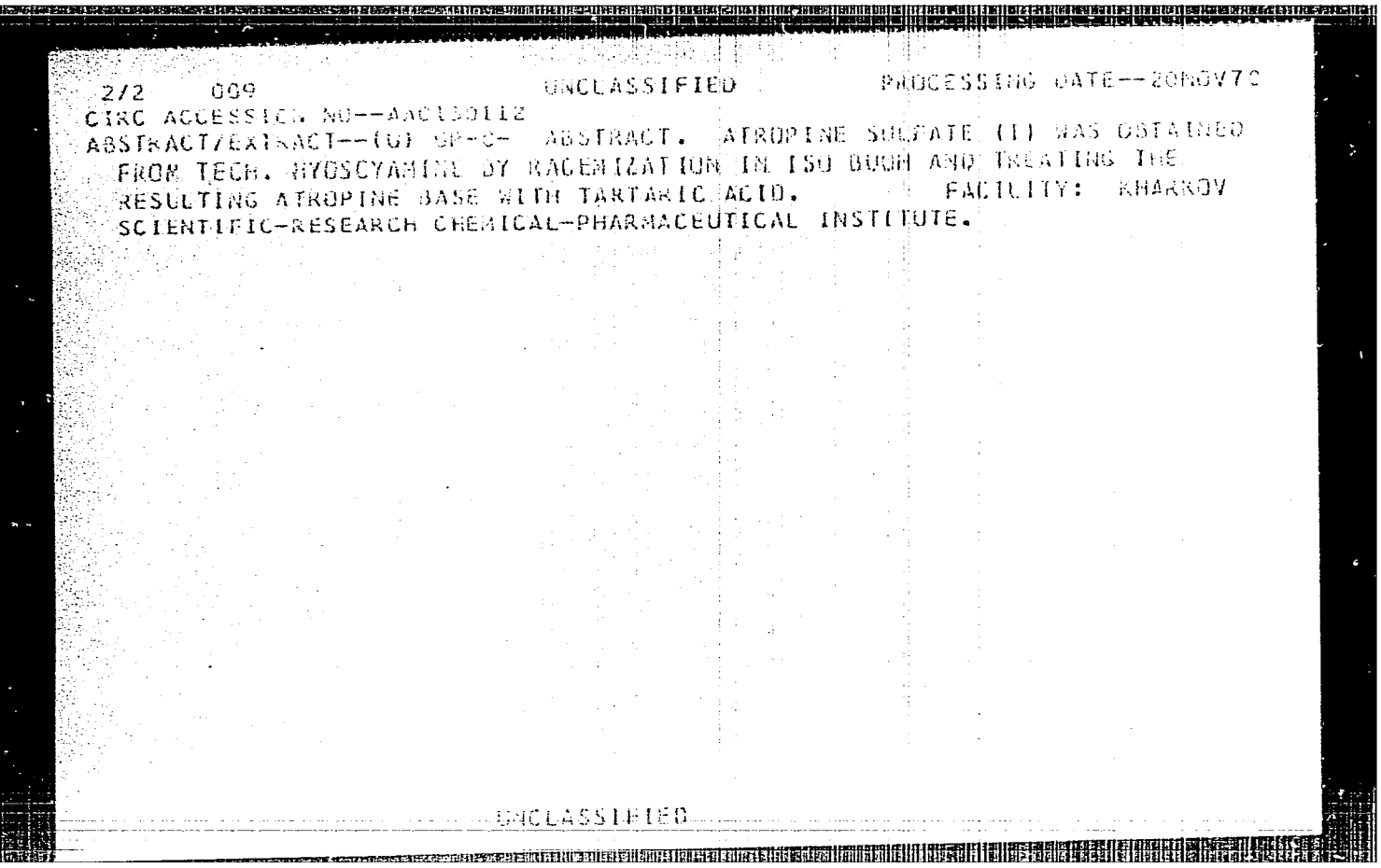
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES, CHEMISTRY

TOPIC TAGS--ATROPINE, CHEMICAL PURIFICATION, DRUG INDUSTRY, CHEMICAL PATENT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3003/1107 STEP NO--UR/0482/70/000/000/0000/0000

CIRC ACCESSION NO--AA0130112



2/2 009 UNCLASSIFIED PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AA0130112

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ATROPINE SULFATE (I) WAS OBTAINED FROM TECH. HYOSCYAMINE BY RACEMIZATION IN ISO BUOH AND TREATING THE RESULTING ATROPINE BASE WITH TARTARIC ACID. FACILITY: KHARKOV SCIENTIFIC-RESEARCH CHEMICAL-PHARMACEUTICAL INSTITUTE.

UNCLASSIFIED

USSR

UDC 615.322:633.75:547.943).012.8

MUSHINSKAYA, S. KH., SHOSTENKO, YU. V., VYSOTSKAYA, YE. S., and BOZHKO, N. G., Khar'kov Scientific Chemical-Pharmaceutical Research Institute

"The use of an Anion Exchange Resin in Isolation of Codeine and Morphine From Poppy Pods"

Moscow, Khimiko-Farmatsevticheskiy Zhurnal, Vol 6, No 12, Dec 72, pp 34-37

Abstract: After preliminary testing it was established that the best sorption properties towards morphine were exhibited by the strongly basic anion exchange resin AV-17 in the hydroxyl form with 2% divinylbenzene. Using this material, alcoholic ammonia extracts of poppy pods were passed through the column. Morphine, phenolic alkaloids and acid resins were bound to the resin while codeine, nonphenolic alkaloids and basic resins were eluted from the column. After this separation, routine isolation and purification of morphine and codeine were carried out.

1/1

UDC 615.361.419.03:617-001.28-092.9

USSR

GANKEVICH, G. A., SHOSTKA, G. D., KANAYEV, S. V., and CHAPLYGINA, Z. A., Leningrad Institute of Hematology and Blood Transfusion, and Clinic of Internal Medicine First Leningrad Medical Institute imeni I. P. Pavlov

"The Effect of Bone Marrow Hydrolysate on the Survival of Lethally Irradiated Rabbits and on Some Hemopoietic Indices"

Moscow, Problemy Gematologii i Perelivaniya Krovi, Vol 15, No 6, Jun 70, pp 36-39

Abstract: Four groups of rabbits were irradiated with 1,000 r. The first group was the control; the second group was given bone marrow hydrolysate; the third group was given hydrolysate and neocompensan (polyvinylpyrrolidone); and the fourth group - neocompensan alone. Death rate was as follows: group one-57%; group two-48%; group three-22%; group four - the same as group one. In all animals reduction of levels of blood elements and depression of hemopoiesis were observed. Changes were most pronounced in group one and least in group two. In group four leukopenia was even more marked than in group one; neocompensan apparently ameliorates the symptoms but does not prevent the development of irradiation-induced anemia. Restoration of reticulocytes, in all animals, began on the 14th day after irradiation. It continued regularly in groups two and three; in group one the restoration dropped on the 21st day and in group four it was delayed. In all experiments with

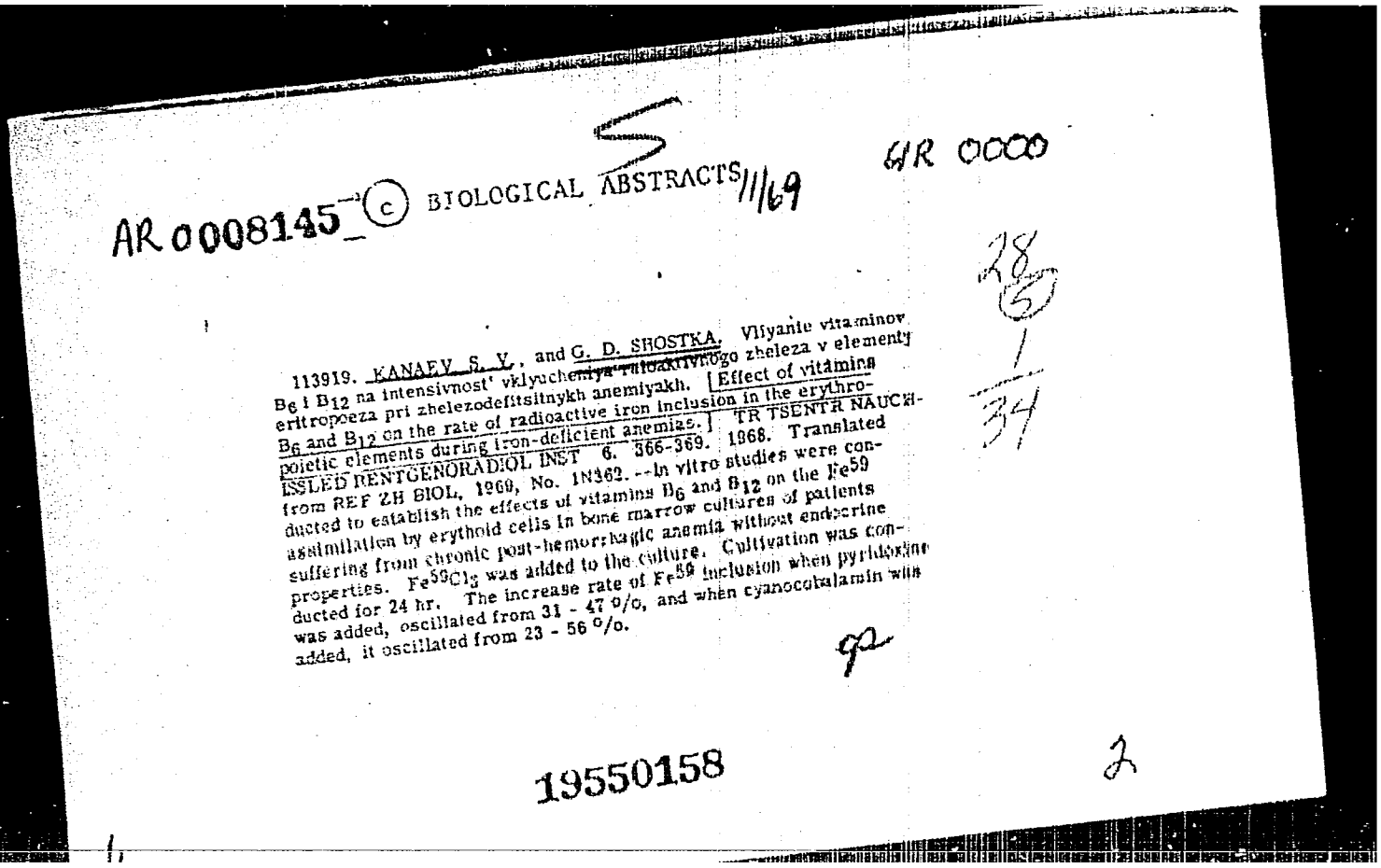
1/2

USSR

GANKEVICH, G. A., et al., Problemy Gematologii i Perelivaniya Krovi, Vol 15, No 6, Jun 70, pp 36-39

bone-marrow hydrolysate no toxic symptoms were observed. Bone marrow apparently promotes the growth of DNA-synthesizing cells.

2/2



AR 0008145 (c) BIOLOGICAL ABSTRACTS 1/69

AR 0000

113919. KANAEV, S. V., and G. D. SHOSTKA. Vliyanie vitaminov B_6 i B_{12} na intensivnost' vklyucheniya radioaktivnogo zheleza v elementy eritropoeza pri zhelezodefitsitnykh anemiyakh. [Effect of vitamins B_6 and B_{12} on the rate of radioactive iron inclusion in the erythropoietic elements during iron-deficient anemias.] TR TSENTR NAUCH-ISSLED RENTGENORADIOL INST 6: 366-369. 1968. Translated from REF ZH BIOL, 1969, No. 1N362.--In vitro studies were conducted to establish the effects of vitamins B_6 and B_{12} on the Fe^{59} assimilation by erythoid cells in bone marrow cultures of patients suffering from chronic post-hemorrhagic anemia without endocrine properties. $Fe^{59}Cl_3$ was added to the culture. Cultivation was conducted for 24 hr. The increase rate of Fe^{59} inclusion when pyridoxine was added, oscillated from 31 - 47 o/o, and when cyanocobalamin was added, it oscillated from 23 - 56 o/o.

19550158

1/2 021 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--RETUNING OF THE FREQUENCY OF COHERENT RADIATION OF INDIUM ANTIMONIDE USING A MAGNETIC FIELD -U-

AUTHOR-(03)-ZASAVITSKIY, I.I., MATSIONASHVILI, B.N., SHOTOV, A.P.

COUNTRY OF INFO--USSR

SOURCE--FIZ. TEKH. POLUPROV. 1970, 4(2), 337-40

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--ELECTROMAGNET, INDIUM ANTIMONIDE, ELECTROMAGNETIC RADIATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1997/1717 STEP NO--UR/0449/70/004/002/0337/0340

CIRC ACCESSION NO--AP0120429

UNCLASSIFIED

2/2 021 UNCLASSIFIED PROCESSING DATE--23OCT70
CIRC ACCESSION NO--AP0120429
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. WITH THE HELP OF A SPECIALLY CONSTRUCTED SUPERCONDUCTING ELECTROMAGNET THE RETUNING FREQUENCY OF COHERENT RADIATION OF IN ANTIMONIDE WAS STUDIED AT 4.2-10DEGREESK. ON INCREASING THE FIELD FROM 8.6 TO 50 KOE, A CHANGE IN THE WAVELENGTH OF RADIATION FROM 5.243 TO 5.000 MU, WHICH CORRESPONDS TO A RELATIVE SHIFT IN THE FREQUENCY OF SIMILAR TO 4.5PERCENT, WAS EFFECTED.
FACILITY: FIZ. INST. IM. LEBEDEVA, MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC: 621.382.2

ZASAVITSKIY, I. I., MATSONASHVILI, B. N., and SHOTOV, A. P., P. N. Lebedev Physics Institute, Moscow

"Effect of a Magnetic Field on Spontaneous and Coherent p-n Junction Radiation in PbSe"

Leningrad, Fizika i tekhnika poluprovodnikov, No 7, 1972, pp 1288-1291

Abstract: The use of a quantizing magnetic field for investigating the recombination radiation spectrum of semiconductors yields information regarding the energy structure near the spectrum edges. Hence the reason for this paper studying the effect of the magnetic field on radiation from PbSe p-n junctions. For the measurements, the junctions were made of n and p-type material with carrier concentrations of $(1.2\text{-}5.0)\cdot 10^{18}$/cc and a mobility of $(1\text{-}3)\cdot 10^4$ cm^2 per V·sec at 77° K. The p-n junctions were made by diffusing the Se or Pb from PbSe powder into sealed quartz ampoules. Measurements were made at 4.2° K in magnetic fields of up to 10 kOe in a helium optical cryostat placed in the gap of an ordinary electromagnet. It was found, from the shifts in the radiation lines due

1/2

USSR

ZAŠAVITSKIY, I. I., et al, Fizika i tekhnika poluprovodnikov, No 7, 1972, pp 1288-1291

to the magnetic field, that the radiation junctions occur between the Landau split spin levels. At the temperature of liquid helium, junctions were observed with the electron spin both maintained and reoriented. For laser diodes, shifts of different types caused by the dependence of the refraction index on the magnetic field were also observed. The authors thank Ye. G. Chizhevskiy for preparing the specimens, and A. K. Kupriyanov and V. I. Pogodin for their assistance with the work.

2/2

1/2 027 UNCLASSIFIED PROCESSING DATE--02OCT70

TITLE--TREATMENT OF THE EXPERIMENTAL ACUTE RENAL INSUFFICIENCY BY THE HAEMORENODIALYSIS METHOD -U-

AUTHOR-(02)-SHOTT, A.V., VOYTENOK, N.K.

COUNTRY OF INFO--USSR

SOURCE--ZDRAVOOKHRANENIYE BELORUSSII, 1970, NR 2, PP 6-9

DATE PUBLISHED-------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--KIDNEY, DOG, THROMBOSIS, BLOOD CHEMISTRY, UREA, DIALYSIS, EMBOLISM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1988/1514 STEP NO--UR/0477/70/000/002/0006/0009

CIRC ACCESSION NO--AP0106270

UNCLASSIFIED

2/2 027 UNCLASSIFIED PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AP0106270

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. BEGINNING FROM 1967 THE AUTHORS GO ON CARRYING OUT EXPERIMENTAL STUDIES OF THE POSSIBILITIES OF HOMO, HETERO AND CADAVERIC KIDNEYS IN TREATING FOR THE EXPERIMENTAL ACUTE RENAL INSUFFICIENCY, 110 OPERATIONS WERE PERFORMED ON 40 DOGS. A MODEL OF THE DISEASE, THE METHODS OF SWITCHING ON THE DONOR'S KIDNEY TO THE RECIPIENT, PROPHYLAXIS FOR THROMBOSES, AIR EMBOLIA, CREATION OF THE OPTIMAL TEMPERATURE AND OSMOONCOTIC REGIME FOR THE DONOR'S KIDNEY AND SO ON WERE WORKED OUT. 36 DIALYSES WERE ACCOMPLISHED THROUGH A HOMOKIDNEY, 3, THROUGH A HETEROKIDNEY AND 1, THROUGH A CADAVERIC ONE. A POSITIVE EFFECT WAS OBTAINED BY THE AUTHORS IN 17 EXPERIMENTS. THE GIVEN DIALYSIS, LED TO NORMALIZING THE ELECTROLYTIC BLOOD STRUCTURE AND TO REMOVAL OF THE UREA FROM THE DONOR'S ORGANISM. THE RESULTS OF INVESTIGATION ALLUDED TO THE POSSIBILITY TO USE THE ABOVE MENTIONED METHOD IN TREATING FOR ACUTE RENAL INSUFFICIENCY.

UNCLASSIFIED

SHOVKOLOVICH, A.K. (Maj. Gen) Mil.

COMBAT ACTION OF A MOTORIZED RIFLE BATTALION IN A CITY

UDC: 355.426

[Excerpts from book by Maj Gen A. K. Shovkolovich, Col [illegible], Honored Worker of Science and Engineering, and Col [illegible], Candidate of Military Sciences, Honored Worker of Science and Engineering: Boyevyye Deystviya Motostrelkovogo Batal'ona v Gorode (Combat Action of a Motorized Rifle Battalion in a City), Military Press, Russian, 1971, signed to press 30 March 1971, 192 pp]

Title Page

Boyevyye Deystviya Motostrelkovogo Batal'ona v Gorode (Combat Action of a Motorized Rifle Battalion in a City).

Signed to Press: 30 March 1971. Number of copies: 8000.

Brief Description

Distinguishing aspects of organization for and conduct of offensive and defensive combat waged by subunits (podrazdeleniye) in a city when either nuclear missiles or only conventional weapons are employed are described in this book. Concrete tactical examples are described to demonstrate the work of the commander of a motorized rifle battalion and his staff in organizing for offensive and defensive combat in a city and in controlling subunits of a battalion during the course of combat.

Theoretical questions as well as the practical work of a commander and his staff are described based on the experience gained in the Great Patriotic War and postwar troop exercises. The views held in foreign armies as described in this book are based on materials published in the open foreign press.

The book is intended for use by officers in motorized rifle units as an aid in preparing for instruction.

Table of Contents

JPRS: 55386

8 Jun 71

- 33 -

Introduction

The history of wars and especially World War II shows that combat action to capture or hold a city has been a frequent occurrence. This will be characteristic of any future war if the imperialists should unleash one.

Modern cities are administrative and political centers. They contain large masonry buildings and structures and numerous

USSR

UDC 539.3

ABOVSKIY, N. P., AZARKHIN, A. M., YENDZHIYEVSKIY, L. V., PAS'KO, D. A., SHOYEVA, Ye. T.

"On the Calculation of Convex Polyhedra With Plane and Curved Ribbed Panels"

V sb. Prostranstv. konstruktsii v Krasnoyarsk. kraye (Three-Dimensional Structures in the Krasnoyarsk Region -- Collection of Works), Krasnoyarsk, 1972, pp 20-27 (from RZh-Mekhanika, No 3, Mar 73, Abstract No 3V116)

Translation: Variational formulations of the problem in displacements and in mixed form using stress and bending functions are discussed for convex multisided surfaces considering discrete displacement of the ribs. Each ribbed panel of the system is represented as a variety of a shell of variable thickness. Authors' abstract.

1/1

USSR

UDC 537.533.2+537.534

FRIDRIKHOV, S. A., SHOYKHET, F. N.

"Effect of an Electric Field on Secondary Electron Emission of Alkali-Halide Films"

Tr. Leningr. politekhn. in-ta (Works of Leningrad Polytechnical Institute), 1970, No 311, pp 29-40 (from RZh-Fizika, No 12(I), Dec 70, Abstract No 12Zh658)

Translation: It was shown that in the case of porous alkali-halide layers (NaCl, KCl) the coefficient of inertialess secondary electron emission for reflection by an intensified field σ_ε can reach several tens (up to 80) for an energy of the primary electrons of several kev (in a mode of single pulses of the primary current of duration ~1 μsec). The dependence of σ_ε on the energy of the primary electrons E_p has an anomalous nature (with two maxima); σ_ε depends considerably on the porosity of the film. The greatest values of σ_ε were obtained in the case

1/2

USSR

FRIDRIKHOV, S. A., SHOYKHET, F. N., Tr. Leningr. politekhn. in-ta, 1970, No 311, pp 29-40

of porous alkali-halide films deposited on Pt-substrates in an atmosphere of Ar at a pressure of several mmHg. High-frequency oscillations (instabilities) were observed in the current flowing in the target circuit. 20 references. Authors abstract.

2/2

USSR

UDC 539.374

GREKHOV, V. A., MANZHELEY, V. I., MITROFANOV, V. V., NIKOLAYEV, V. P., TITOVA, N. S., SHOYKHET, G. Ya.

"Experimental Study of the Strength of Thin-Walled Rectangular Tube Under Cyclic Axial Loading in the Elastic-Plastic Region"

V sb. Dinamika sploshn. sredy. Vyp. 8 (Dynamics of a Continuous Medium. No. 8 -- Collection of Works), Novosibirsk, 1971, pp 144-151 (from RZh-Mekhanika, No 8, Aug 72, Abstract No 8V361)

Translation: The strength of a tube with a transverse cross section in the form of a rectangular trapezoid welded at the ends to fixed rigid parts under a cyclic temperature effect was studied. Experiments were made on the object itself and on models, reduced tubes of rectangular cross section. The tube was subjected to a variable load and cooling up to given temperatures. The models were deformed without changing the temperature, compression was achieved up to a given deformation, and stretching was achieved up to a given value of the axial force. The material for the tube and the models was Kh18N10T steel. Test results based on 100 cycles are discussed. Stability losses in the walls and limited growth of deformation under the first cycles are noted. The test ended with the formation of cracks in some cases. D. A. Gokhfel'd.

1/1

USSR

UDC: 621.398.1:622

MELIK-ASKAROV, A. G., SHOYKHET, L. A., Doctor of Technical Sciences

"Combined Telemechanics Device for Mine Control"

Kiev, Mekhanizatsiya i Avtomatizatsiya Upravleniya, No 4, 1970, pp 55-58

Abstract: The Institute of Automation (Kiev) has developed a combined telemechanics device designed for operation under mine conditions. The device can operate in combination with a control computer and performs the following functions: remote control of the position or condition of two-position commutation apparatus and equipment; remote signalling of the condition or position of the objects being tested; telemetry with simultaneous signalling of deviations beyond fixed limits in the measured parameters. The capacity of the device is 512 testing and control points, arbitrarily divided among remote control, remote signalling, and telemetry points. The maximum time between cyclical interrogation of each object is one minute. The maximum range is 10-12 km. The device is diagramed and its operation is briefly explained. This multichannel code device has undergone preliminary testing and is currently being used at the Bereznyakovskiy Potash Combine mine.

1/1

SHOYKHET, L.A.

USSR

Dedicated Klaeris for mine control

UDC: 621.398.1:622

MELIK-ASKAROV, A. G., SHOYKHET, L. A., Doctor of Technical Sciences

"Combined Telemechanics Device for Mine Control"

Kiev, Mekhanizatsiya i Avtomatizatsiya Upravleniya, No 4, 1970, pp 55-58

Abstract: The Institute of Automation (Kiev) has developed a combined telemechanics device designed for operation under mine conditions. The device can operate in combination with a control computer and performs the following functions: remote control of the position or condition of two-position commutation apparatus and equipment; remote signalling of the condition or position of the objects being tested; telemetry with simultaneous signalling of deviations beyond fixed limits in the measured parameters. The capacity of the device is 512 testing and control points, arbitrarily divided among remote control, remote signalling, and telemetry points. The maximum time between cyclical interrogation of each object is one minute. The maximum range is 10-12 km. The device is diagramed and its operation is briefly explained. This multichannel code device has undergone preliminary testing and is currently being used at the Bereznyakovskiy Potash Combine mine.

1/1

JPRS 52631
16 March 1971